

UNCLASSIFIED



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-198



F-35 Lightning II Joint Strike Fighter (JSF) Program (F-35)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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Sensitivity Originator

No originator information is available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name

F-35 Lightning II Joint Strike Fighter (JSF) Program (F-35)

DoD Component

DoD

Joint Participants

United States Navy; United States Air Force; United States Marine Corps; United Kingdom; Italy; The Netherlands; Turkey; Canada; Australia; Denmark; Norway

The F-35 Program is a joint DoD program for which Service Acquisition Executive Authority alternates between the Department of the Navy (DoN) and the Department of the Air Force (DAF), and currently resides with the DAF.

Responsible Office

VADM Mathias Winter
F-35 Lightning II Program Office
200 12th St South
Arlington, VA 22202-5402

Phone: 703-601-5602

Fax: 703-602-7649

DSN Phone: 329-5650

DSN Fax:

Date Assigned: May 25, 2017

References

F-35 Aircraft

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 26, 2012

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2019

F-35 Engine

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 26, 2012

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2019

Mission and Description

The F-35 Lightning II Program will develop and field an affordable, highly common family of next-generation strike aircraft for the U.S. Navy, Air Force, Marine Corps, and allies. The three variants are the F-35A; F-35B; and the F-35C. The F-35A will be a stealthy multi-role aircraft, primarily air-to-ground, for the Air Force to replace the F-16 and A-10 and complement the F-22. The F-35B variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18A/C/D for the Marine Corps. The F-35C will provide the U.S. Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F. The planned DoD F-35 Fleet will replace the joint services' legacy fleets. The transition from multiple type/model/series to a common platform will result in a smaller total force over time and operational and overall cost efficiencies.

Executive Summary

The 2018 National Defense Strategy (NDS) identifies several challenges to continued U.S. prosperity and security. Among them are building a more lethal Joint force, strengthening alliances and attracting new partnerships, and reforming business practices for greater performance and affordability. Our Joint and Coalition Forces will need the capabilities and capacities of technologically superior weapon systems to out-think, out-maneuver and out-innovate high-end adversaries as well as rogue regimes, violent extremist organizations and other global actors that challenge our military advantage and national security interests. The F-35 Lightning II program aligns to and directly enables the implementation of the NDS.

The F-35 Lightning II is the Department of Defense's largest cooperative acquisition program bringing together three U.S. military services - Air Force (USAF), Marine Corps (USMC), and Navy (USN)) with eight partner nations (United Kingdom, Italy, Netherlands, Turkey, Canada, Australia, Denmark, and Norway) to develop, produce, and sustain this combat proven fifth-generation strike fighter weapon system. In addition to these foundational partners, the program currently has four FMS customers: Israel, Korea, Japan, and Belgium (new for 2018) with several additional FMS customers showing strong interest.

SAR 18 is baselined from the March 2019 APB which was updated to include the Block 4 2018 Program Office Cost Estimate, Block 4 prior year actuals, Deployability and Suitability (D&S), Autonomic Logistics Information System (ALIS), and Dual Capable Aircraft (DCA) in the RDT&E baseline. The updated APB includes an aircraft quantity increase from 2443 to 2456, and Block 4 modification costs in the Procurement baseline. Finally, the updated APB includes the CAPE 2018 cost estimate in the O&S baseline.

The F-35 program continues to move at a full sprint across three interdependent lines of effort - development, production, and sustainment - to develop, deliver, and sustain the F-35 air system. With an estimated \$1.6 trillion (TY\$) life cycle cost through the year 2077, the investments by the services, partner nations, and FMS customers constitutes a substantial portion of each of their defense budgets. As a result, the shared accountability and responsibility between the U.S. Government, partner nations, and industry partners to perform to plan cannot be emphasized enough.

This shared accountability drives a requirement for seamless collaboration and proactive engagement between the industry partners and the F-35 Joint Program Office (JPO) for expeditious deliveries, quality products, accountability, and long-term growth of the program. The JPO needs positive engagement with all industry partners to slash timelines for technical resolutions, program plan generation, contract actions/awards, production deliveries, and sustainment solutions. The JPO will continue to work with its industry partners and incentivize them to embrace innovative and bold acquisition approaches to rapidly deliver advanced capabilities, aggressively drive down the production costs and restructure the sustainment and ownership framework to ensure our warfighters can afford to own and operate their F-35 fleets well into the future.

2018 was a very productive year for the program. First aircraft arrivals occurred for F-35A aircraft to Australia and Japan, and F-35B arrivals occurred in the United Kingdom. The delivery of the Block 3F software enabled the completion of the System Development and Demonstration (SDD) phase of flight test in April 2018 and the beginning of initial operational test and evaluation (IOT&E) in December 2018. Successful completion of IOT&E will enable the Milestone C and related Full-Rate Production Decision currently targeted for October 2019.

Additional goals for 2019 include the delivery of 131 aircraft, achievement of the Secretary's mandate for 80% mission capable rate, and initial operating capability for the USN with the F-35C aircraft.

Development

Delivery of the complete Block 3F software package and subsequent entry into IOT&E signifies a major development team milestone. In fact, the USMC successfully executed an airstrike in support of Operation INHERENT RESOLVE with their F-35Bs in September 2018. There is no better proof that an aircraft is ready for combat operations than usage in combat.

Block 4 and Continuous Capability Development and Delivery (C2D2) development is continuing to address the advancing threat and to expand and improve mission capabilities. For the first time ever, SAR 18 incorporates the full Block 4 program plan. The U.S. Services demonstrated confidence in the plan by fully funding to the JPO Block 4 cost estimate. Since the C2D2 framework leverages the tenets of agile development and is relatively new within the F-35 program, it will require the development and use of new or alternative cost estimating methodologies and approaches. Generated with legacy cost estimating methods, the program's estimates still possess a high degree of fidelity with regard to required near-term Block 4 activities. As the C2D2 approach and our new cost estimating methodologies mature over time, the JPO in partnership with CAPE, will continuously evaluate the program cost impact and update the cost estimate(s) so that subsequent updates will continue to include a full, high fidelity cost estimate(s) across the FYDP and beyond.

As this methodology evolves, the program will communicate 'real time' with the Congressional Defense Committee staffs through quarterly PEO and DAE engagements, and provide the annual Follow-on Modernization report required by Section 224(b) of the National Defense Authorization Act for FY 2017 (Public Law 114-328).

Production

The program delivered 91 aircraft and achieved its planned delivery goal for 2018. In 2019, the goal is to deliver a total of 131 aircraft. The JPO continues to experience slow negotiation behaviors from the prime contractor that unnecessarily extends the timeline to contract award. As production ramps up, the JPO has concerns with the prime contractor's ability to negotiate in a timely manner to meet required delivery schedules with the required quality and performance. The JPO is incentivizing the prime contractor's behavior through appropriate contracts and other methods to improve production systems, reduce span times, improve quality, and reduce costs.

A multi-agency cost deep dive by experts from OSD, the services, and industry completed in December 2018, identifying several actionable initiatives that will be implemented to reach our production goals. Savings will be realized over the PB 2020 FYDP as the team is able to continue their work.

The total procurement quantity reflected in the SAR for the United States service requirements remains at 2456; USAF – 1763 F-35A; USMC – 353 F-35B, 67 – F-35C; and USN 273 F-35C. This procurement quantity and breakout by service is the same as the PB 2019 submission and last year's SAR.

Sustainment

The O&S section of the SAR reflects the 2018 CAPE ICE update. The F-35 JPO has updated the program office portion of the narrative in the O&S section with its current estimates. The updated Fiscal Years in Service are FY 2011 - FY 2077.

The F-35 Enterprise is in full stride standing up the Global Support Solution (GSS) to provide cost effective, safe and timely Maintenance, Repair, Overhaul and Upgrade within a three-region framework (Europe, Pacific, and North America) for airframe, engine, component, warehousing, and distribution. The global sustainability posture (including both readiness and cost) relies on a common pool of spares and support equipment, common pilot and maintainer training, and common engineering support. Unique country-specific requirements and capabilities are provided via Afloat and Deployable Spares Packages requirements at U.S. Service, Partner nations, and FMS-unique cost.

At current estimates, the projected F-35 sustainment outlays based upon given planned fleet growth will strain future service O&S budgets. The prime contractor must embrace much-needed supply chain management affordability initiatives, optimize priorities across the supply chain for spare and new production parts, and enable the exchange of necessary data rights to implement the required stand-up of planned government organic software capabilities. The program is establishing and validating affordability goals and required actionable initiatives to realize them; focusing on cost reduction efforts, capacity tradeoffs, reallocation of Industry/Government workshare and alignment within services' Budgets.

Achieving these goals will require updates to product support and sustainment strategies, including the Life-Cycle Support Plan and supporting Business Case Analyses to address fielding and sustainment performance improvements. The Program is using Performance Based Logistics principles, manifested in GSS and related enterprise capabilities, to maximize warfighter performance while working within participant resource constraints.

The objective will be to meet warfighter operational requirements at Continental U.S. and forward deployed locations by

delivering: affordable sustainment for the F-35 within the U.S. Services budgets; stabilized Autonomic Logistics Information System and Information Technology architecture that is protected from cybersecurity threats; increased transparency; and expanded warfighter roles to enable frequent and detailed discussions to align with U.S. Service priorities and link budgetary decisions to F-35 sustainment strategies.

Summary

Our F-35 Enterprise goals and milestones for 2019 are challenging. These goals and milestones are what our warfighter needs from us in 2019. We intend to deliver more warfighting capability and drive down production and sustainment costs. We anticipate another three IOCs (USN, Japan, and Norway) and three First Aircraft Arrivals (the Netherlands, Turkey and ROK). Our warfighters will continue to accept F-35 air systems establishing new bed down sites, both land based and maritime, as they continue to mature their warfighting concept of operations to be prepared to fight the fight when called upon. The F-35 is providing the combat-proven capabilities our warfighter demands, and the JPO is working daily to ensure the F-35 remains an affordable, lethal and effective war-winning platform in support of our NDS.

Threshold Breaches

F-35 Aircraft

APB Breaches

| | | |
|---------------------|-------------|--------------------------|
| Schedule | | <input type="checkbox"/> |
| Performance | | <input type="checkbox"/> |
| Cost | RDT&E | <input type="checkbox"/> |
| | Procurement | <input type="checkbox"/> |
| | MILCON | <input type="checkbox"/> |
| | Acq O&M | <input type="checkbox"/> |
| O&S Cost | | <input type="checkbox"/> |
| Unit Cost | PAUC | <input type="checkbox"/> |
| | APUC | <input type="checkbox"/> |

Nunn-McCurdy Breaches

| | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

F-35 Engine

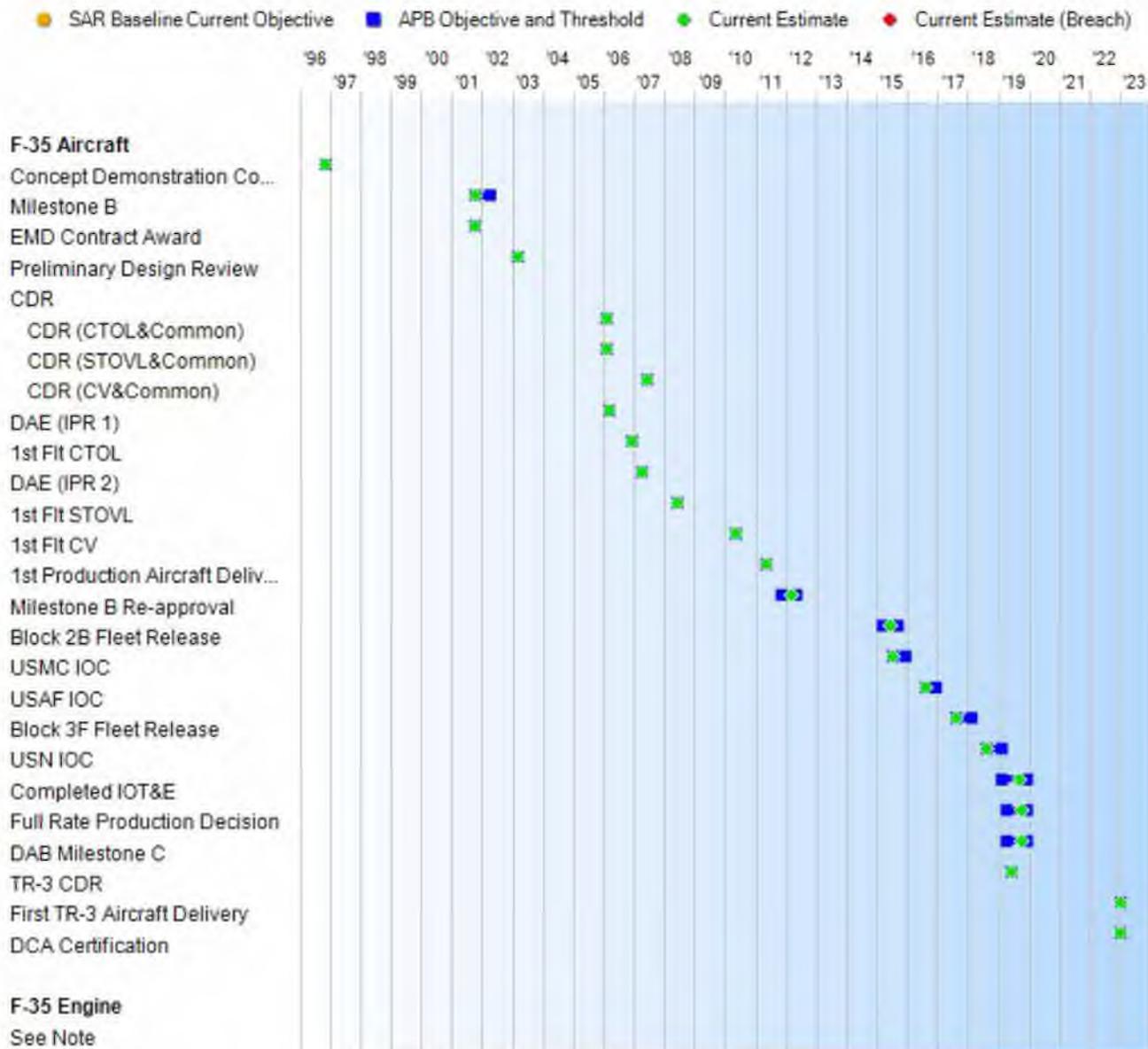
APB Breaches

| | | |
|---------------------|-------------|--------------------------|
| Schedule | | <input type="checkbox"/> |
| Performance | | <input type="checkbox"/> |
| Cost | RDT&E | <input type="checkbox"/> |
| | Procurement | <input type="checkbox"/> |
| | MILCON | <input type="checkbox"/> |
| | Acq O&M | <input type="checkbox"/> |
| O&S Cost | | <input type="checkbox"/> |
| Unit Cost | PAUC | <input type="checkbox"/> |
| | APUC | <input type="checkbox"/> |

Nunn-McCurdy Breaches

| | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

Schedule



F-35 Aircraft

| Schedule Events | | | | | |
|--------------------------------------|-----------------------------------|---|----------|------------------|--------|
| Events | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | |
| Concept Demonstration Contract Award | Nov 1996 | Nov 1996 | Nov 1996 | Nov 1996 | |
| Milestone B | Oct 2001 | Oct 2001 | Apr 2002 | Oct 2001 | |
| EMD Contract Award | Oct 2001 | Oct 2001 | Oct 2001 | Oct 2001 | |
| Preliminary Design Review | Apr 2003 | Mar 2003 | Mar 2003 | Mar 2003 | |
| CDR | | | | | |
| CDR (CTOL&Common) | Feb 2006 | Feb 2006 | Feb 2006 | Feb 2006 | |
| CDR (STOVL&Common) | Feb 2006 | Feb 2006 | Feb 2006 | Feb 2006 | |
| CDR (CV&Common) | Jun 2007 | Jun 2007 | Jun 2007 | Jun 2007 | |
| DAE (IPR 1) | Mar 2006 | Mar 2006 | Mar 2006 | Mar 2006 | |
| 1st Flt CTOL | Dec 2006 | Dec 2006 | Dec 2006 | Dec 2006 | |
| DAE (IPR 2) | Apr 2007 | Apr 2007 | Apr 2007 | Apr 2007 | |
| 1st Flt STOVL | Jun 2008 | Jun 2008 | Jun 2008 | Jun 2008 | |
| 1st Flt CV | Jun 2010 | May 2010 | May 2010 | May 2010 | |
| 1st Production Aircraft Delivered | May 2011 | May 2011 | May 2011 | May 2011 | |
| Milestone B Re-approval | Mar 2012 | Nov 2011 | May 2012 | Mar 2012 | |
| Block 2B Fleet Release | Mar 2015 | Mar 2015 | Sep 2015 | Jun 2015 | |
| USMC IOC | TBD | Jul 2015 | Dec 2015 | Jul 2015 | |
| USAF IOC | TBD | Aug 2016 | Dec 2016 | Aug 2016 | |
| Block 3F Fleet Release | Aug 2017 | Aug 2017 | Feb 2018 | Aug 2017 | |
| USN IOC | TBD | Aug 2018 | Feb 2019 | Aug 2018 | |
| Completed IOT&E | Feb 2019 | Feb 2019 | Dec 2019 | Sep 2019 | (Ch-1) |
| Full Rate Production Decision | Apr 2019 | Apr 2019 | Dec 2019 | Oct 2019 | (Ch-2) |
| DAB Milestone C | Apr 2019 | Apr 2019 | Dec 2019 | Oct 2019 | (Ch-2) |
| TR-3 CDR | N/A | Jun 2019 | Jun 2019 | Jun 2019 | (Ch-3) |
| First TR-3 Aircraft Delivery | N/A | Jan 2023 | Jan 2023 | Jan 2023 | (Ch-3) |
| DCA Certification | N/A | Jan 2023 | Jan 2023 | Jan 2023 | (Ch-3) |

Change Explanations

(Ch-1) 1/ IOT&E completion date threshold has been updated from August 2019 to December 2019 based on March 2019 assessment of IOT&E, and DAE direction received during March 2019 APB update.

(Ch-2) 2/ Full Rate Production Decision and Milestone C dates threshold has been updated from October 2019 to December 2019 based on IOT&E completion date, and DAE direction received during March 2019 APB update.

(Ch-3) 3/ Update includes major milestone dates for Block 4 as of March 2019. Threshold dates will be updated in the next APB update prior to Milestone C approval.

Notes

The program has added three Block 4 milestones (TR-3 CDR, First TR-3 Aircraft Delivery, DCA Certification) as reflected in the March 2019 APB update.

Acronyms and Abbreviations

CDR - Critical Design Review

CTOL - Conventional Takeoff and Landing

CV - Aircraft Carrier Suitable Variant

DCA - Dual Capable Aircraft

Flt - Flight

IOT&E - Initial Operational Test and Evaluation

IPR - Interim Progress Review

STOVL - Short Takeoff and Vertical Landing

TR - Technical Refresh

USAF - United States Air Force

USMC - United States Marine Corps

USN - United States Navy

F-35 Engine

| Schedule Events | | | | |
|-----------------|-----------------------------------|---|-----|------------------|
| Events | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate |
| See Note | N/A | N/A | N/A | N/A |

Change Explanations

None

Notes

Schedule milestones for the F-35 Engine subprogram are captured as part of the system-level schedule milestones reflected in the F-35 Aircraft subprogram.

Performance

F-35 Aircraft

| Performance Characteristics | | | | |
|--|--|---|---|---|
| SAR Baseline Development Estimate | Current APB Development Objective/Threshold | Demonstrated Performance | Current Estimate | |
| STOVL Mission Performance - STO Distance Flat Deck | | | | |
| With four 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 550 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile. | With four 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 550 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile. | With two 1000# JDAMs and two internal AIM-120s, full expendables, execute a 600 foot (450 UK STOVL) STO from LHA, LHD, and aircraft carriers (sea level, tropical day, 10 kts operational WOD) and with a combat radius of 450 nm (STOVL profile). Also must perform STOVL vertical landing with two 1000# JDAMs and two internal AIM-120s, full expendables, and fuel to fly the STOVL Recovery profile. | Execute 471 ft. STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm | Execute 471 ft. STO with 2 JDAM (internal), 2 AIM-120 (internal), fuel to fly 450nm |
| Combat Radius NM -CTOL Variant | | | | |
| 690 | 690 | 590 | 669 | 669 |
| Combat Radius NM -STOVL Variant | | | | |
| 550 | 550 | 450 | 505 | 505 |
| Combat Radius NM -CV Variant | | | | |
| 730 | 730 | 600 | 670 | 670 |
| Mission Reliability - CTOL Variant | | | | |
| 98% | 98% | 93% | 93% | 93% |
| Mission Reliability - CV Variant | | | | |
| 98% | 98% | 95% | 95% | 95% |
| Mission Reliability - STOVL Variant | | | | |
| 98% | 98% | 95% | 97% | 97% |
| Logistics Footprint - CTOL Variant | | | | |
| Less than or equal to 6 C-17 equivalents | Less than or equal to 6 C-17 equivalents | Less than or equal to 8 C-17 equivalent loads | Less than or equal to 8 C-17 equivalents | Less than or equal to 8 C-17 equivalents |

| Logistics Footprint - CV Variant | | | | |
|---|---|---|---|---|
| Less than or equal to 34,000 cu ft., 183 ST | Less than or equal to 34,000 cu ft., 183 ST | Less than or equal to 46,000 cu ft., 243 ST | Less than or equal to 44,900 cu ft., 222 ST | Less than or equal to 44,900 cu ft., 222 ST |
| Logistics Footprint - STOVL Variant | | | | |
| Less than or equal to 4 C-17 equivalents | Less than or equal to 4 C-17 equivalents | Less than or equal to 8 C-17 equivalent loads | Less than or equal to 8 C-17 equivalents | Less than or equal to 8 C-17 equivalents |
| Logistics Footprint - STOVL Variant L-Class | | | | |
| Less than or equal to 15,000 cu ft, 104 ST | Less than or equal to 15,000 cu ft, 104 ST | Less than or equal to 21,000 cu ft, 136 ST | Less than or equal to 18,400 cu ft, 105 ST | Less than or equal to 18,400 cu ft, 105 ST |
| Sortie Generation Rates - CTOL Variant | | | | |
| 4.0/3.0/2.0 2.5 ASD | 4.0/3.0/2.0 2.5 ASD | 3.0/2.0/1.0 2.5 ASD | 3.4/3.0/2.0 2.5 ASD | 3.4/3.0/2.0 2.5 ASD |
| Sortie Generation Rates - CV Variant | | | | |
| 4.0/3.0/1.0 1.8 ASD | 4.0/3.0/1.0 1.8 ASD | 3.0/2.0/1.0 1.8 ASD | 3.9/3.0/1.0 1.8 ASD | 3.9/3.0/1.0 1.8 ASD |
| Sortie Generation Rates - STOVL Variant (USMC) | | | | |
| 6.0/4.0/2.0 1.1 ASD | 6.0/4.0/2.0 1.1 ASD | 4.0/3.0/1.0 1.1 ASD | 5.5/4.0/2.0 1.1 ASD | 5.5/4.0/2.0 1.1 ASD |
| CV Recovery Performance (Vpa) | | | | |
| Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 140 knots. | Vpa at required carrier landing weight (RCLW) of less than 140 knots. | Vpa at required carrier landing weight (RCLW) of less than 145 knots. | Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 143 knots. | Vpa. Maximum approach speed (Vpa) at required carrier landing weight (RCLW) of less than 143 knots. |

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

Operational Requirements Document (ORD) Change 3 dated August 19, 2008 as modified by Joint Requirements Oversight Council Memorandum 040-12 dated March 16, 2012

Change Explanations

None

Acronyms and Abbreviations

ASD - Average Sortie Duration
CTOL - Conventional Takeoff and Landing
CU FT - Cubic Feet
CV - Aircraft Carrier Suitable Variant
JDAM - Joint Direct Attack Munitions
KTS - Knots
NM - Nautical Miles
RCLW - Required Carrier Landing Weight
SGR - Sortie Generation Rate
ST - Short Tons
STO - Short Takeoff
STOVL - Short Takeoff and Vertical Landing
Vpa - Max Approach Speed
WOD - Wind Over the Deck

F-35 Engine

| Performance Characteristics | | | | |
|-----------------------------------|---|-----|--------------------------|------------------|
| SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Demonstrated Performance | Current Estimate |
| See Note | | | | |
| N/A | N/A | N/A | TBD | N/A |

Requirements Reference

Operational Requirements Document (ORD) Change 3 dated August 19, 2008 as modified by Joint Requirements Oversight Council Memorandum 040-12 dated March 16, 2012

Change Explanations

None

Notes

Performance characteristics for the F-35 Engine subprogram are captured as part of the system-level performance characteristics reflected in the F-35 Aircraft subprogram.

Track to Budget

F-35 Aircraft

General Notes

F-35 is DoD's largest cooperative development program. In addition to DoD's funding lines, eight International Partners are providing funding in the System Development and Demonstration (SDD) Phase under a Memorandum of Understanding (MOU): United Kingdom, Italy, The Netherlands, Turkey, Canada, Australia, Denmark, and Norway. All but Turkey and Australia were partners in the prior phase. Associated financial contributions are reflected in the Annual Funding section as Appropriation 9999, RDT&E Non-Treasury Funds. RDT&E cost includes Continuous Capability Development and Delivery (C2D2) Block 4 Funding; F-35B/C Sustainment/Capability Enhancements; F-35A Deployability and Suitability Enhancements; and F-35A Dual Capable Aircraft Enhancements.

RDT&E

| Appn | BA | PE | | |
|-----------|------|----|---|-------------|
| Navy | 1319 | 04 | 0603800N | |
| | | | Project | Name |
| | 2209 | | RDT&E, Navy CDP | (Sunk) |
| Navy | 1319 | 05 | 0604800M | |
| | | | Project | Name |
| | 2262 | | Joint Strike Fighter - EMD | |
| | 3350 | | F-35B Suitability and Deployability | (Sunk) |
| Navy | 1319 | 05 | 0604800N | |
| | | | Project | Name |
| | 2261 | | JT Strike Fighter - EMD | |
| | 3194 | | RDT&E, Navy EMD/Joint Reprogramming Center | (Sunk) |
| | 3352 | | F-35C Suitability and Deployability | (Sunk) |
| Navy | 1319 | 05 | 0604810M | |
| | | | Project | Name |
| | 2935 | | Joint Strike Fighter Follow On Mod (FoM) - MC | |
| Navy | 1319 | 05 | 0604810N | |
| | | | Project | Name |
| | 2936 | | Joint Strike Fighter Follow On Mod (FoM) Navy | (Sunk) |
| Navy | 1319 | 07 | 0604840M | |
| | | | Project | Name |
| | 3410 | | F-35B C2D2 | |
| Navy | 1319 | 07 | 0604840N | |
| | | | Project | Name |
| | 2936 | | F-35 C2D2, JSF Follow-on-Modernization | |
| Air Force | 3600 | 07 | 0207142F | |
| | | | Project | Name |
| | 5346 | | F-35 Squadrons, F-35 | |

| | | | | |
|--------------|----------------|----|---|--------|
| | 5349 | | F-35 Squadrons, HPSI | |
| | 6011 | | F-35 Squadrons, Dual Capable Aircraft (DCA) | |
| Air Force | 3600 | 04 | 0603800F | |
| | Project | | Name | |
| | 2025 | | RDT&E, Air Force GDP | (Sunk) |
| Air Force | 3600 | 05 | 0604800F | |
| | Project | | Name | |
| | 3831 | | F-35 - EMD | |
| | 3832 | | JSF Deployability and Suitability (D&S) | (Sunk) |
| Air Force | 3600 | 07 | 0604840F | |
| | Project | | Name | |
| | 5346 | | F-35A C2D2 | |
| Defense-Wide | 0400 | 03 | 0603800E | |
| | Project | | Name | |
| | | | RDT&E, DARPA | (Sunk) |
| Defense-Wide | 9999 | 05 | | |
| | Project | | Name | |
| | | | RDT&E, Non-Treasury Funds | |

Procurement

| | Appn | BA | PE | |
|-----------|------------------|----|-----------------------------|----------|
| Navy | 1506 | 01 | 0204146N | |
| | Line Item | | Name | |
| | 0147 | | Joint Strike Fighter CV | |
| Navy | 1506 | 01 | 0204146M | |
| | Line Item | | Name | |
| | 0152 | | JSF STOVL | |
| Navy | 1506 | 05 | 0204146M | |
| | Line Item | | Name | |
| | 0592 | | F-35 STOVL Series | (Shared) |
| Navy | 1506 | 05 | 0204146N | |
| | Line Item | | Name | |
| | 0593 | | F-35 CV Series | (Shared) |
| Navy | 1506 | 06 | 0204146N | |
| | Line Item | | Name | |
| | 0605 | | Spares and Repair Parts | (Shared) |
| Navy | 1506 | 06 | 0204146M | |
| | Line Item | | Name | |
| | 0605 | | Spares and Repair Parts | (Shared) |
| Air Force | 3010 | 06 | 0207142F | |
| | Line Item | | Name | |
| | 000999 | | Initial Spares/Repair Parts | (Shared) |
| Air Force | 3010 | 01 | 0207142F | |

| Line Item | | Name | |
|-----------|---------|-----------------------------|--|
| ATA000 | | F-35 | |
| Air Force | 3010 05 | 0207142F | |
| Line Item | | Name | |
| F03500 | | F-35 Modifications (Shared) | |

MILCON

| Appn | BA | PE | |
|-----------|---------|----------------------|--|
| Navy | 1205 01 | 0202176M | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Navy | 1205 01 | 0212176N | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Navy | 1205 01 | 0216496M | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Navy | 1205 01 | 0703676N | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Navy | 1205 01 | 0712876N | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Navy | 1205 01 | 0815976N | |
| Project | | Name | |
| VARIOUS | | MILCON, USN (Shared) | |
| Air Force | 3300 01 | 0207142F | |
| Project | | Name | |
| VARIOUS | | MILCON, AF (Shared) | |
| Air Force | 3300 01 | 0207597F | |
| Project | | Name | |
| VARIOUS | | MILCON, AF (Shared) | |

F-35 Engine**General Notes**

F-35 is DoD's largest cooperative development program. In addition to DoD's funding lines, eight International Partners are providing funding in the System Development and Demonstration (SDD) Phase under a Memorandum of Understanding (MOU): United Kingdom, Italy, The Netherlands, Turkey, Canada, Australia, Denmark, and Norway. All but Turkey and Australia were partners in the prior phase. Associated financial contributions are reflected in the Annual Funding section as Appropriation 9999, RDT&E Non-Treasury Funds. RDT&E cost includes Continuous Capability Development and Delivery (C2D2) Block 4 funding; F-35B/C Sustainment/Capability Enhancements; F-35A Deployability and Suitability Enhancements; and F-35A Dual Capable Aircraft Enhancements.

| RDT&E | | | |
|------------------|----------------|--|----------|
| Appn | BA | PE | |
| Navy | 1319 | 04 | 0603800N |
| | Project | Name | |
| | 2209 | RDT&E, Navy CDP (Sunk) | |
| Navy | 1319 | 05 | 0604800M |
| | Project | Name | |
| | 2262 | RDT&E, Marine Corps | |
| | 3350 | F-35B Suitability and Deployability (Sunk) | |
| Navy | 1319 | 05 | 0604800N |
| | Project | Name | |
| | 2261 | RDT&E, Navy EMD/JSF | |
| | 3194 | RDT&E, Navy EMD/Joint Reprogramming Center (Sunk) | |
| | 3352 | F-35C Suitability and Deployability (Sunk) | |
| | 9999 | RDT&E, Navy EMD/Congressional Adds (Sunk) | |
| Navy | 1319 | 05 | 0604810M |
| | Project | Name | |
| | 2935 | Joint Strike Fighter Follow On Mod (FoM) - MC | |
| Navy | 1319 | 05 | 0604810N |
| | Project | Name | |
| | 2936 | Joint Strike Fighter Follow On Mod (FoM) Navy (Sunk) | |
| Navy | 1319 | 07 | 0604840M |
| | Project | Name | |
| | 3410 | F-35B C2D2 | |
| Navy | 1319 | 07 | 0604840N |
| | Project | Name | |
| | 2936 | F-35 C2D2, JSF Follow-on-Modernization | |
| Air Force | 3600 | 07 | 0207142F |
| | Project | Name | |
| | 5346 | F-35A C2D2 | |
| | 6011 | F-35 Squadrons, Dual Capable Aircraft (DCA) | |
| Air Force | 3600 | 04 | 0603800F |
| | Project | Name | |
| | 2025 | RDT&E, Air Force CDP (Sunk) | |
| Air Force | 3600 | 05 | 0604800F |
| | Project | Name | |
| | 3831 | RDT&E, Air Force EMD/Joint Strike Fighter Quantity of RDT&E Articles | |
| | 3832 | JSF Deployability and Suitability (D&S) (Sunk) | |
| Air Force | 3600 | 07 | 0604840F |
| | Project | Name | |

5346 F-35A C2D2

Defense-Wide 0400 03 0603800E

Project**Name**

RDT&E, DARPA

(Sunk)

Defense-Wide 9999 05

Project**Name**

RDT&E, Non-Treasury Funds

Procurement**Appn****BA****PE**

Navy

1506 01 0204146N

Line Item**Name**

0147 JSF (Navy)

Navy

1506 01 0204146M

Line Item**Name**

0152 JSF (Marine Corps)

Navy

1506 05 0204146M

Line Item**Name**

0592 F-35 STOVL Series

(Shared)

Navy

1506 05 0204146N

Line Item**Name**

0593 F-35 CV Series

(Shared)

Navy

1506 06 0204146N

Line Item**Name**

0605 Initial Spares (Navy)

(Shared)

Navy

1506 06 0204146M

Line Item**Name**

0605 Initial Spares (Marine Corps)

(Shared)

Air Force

3010 06 0207142F

Line Item**Name**

000999 Initial Spares (Air Force)

(Shared)

Air Force

3010 01 0207142F

Line Item**Name**

ATA000 JSF (Air Force)

Air Force

3010 05 0207142F

Line Item**Name**

F03500 Mods (Air Force)

(Shared)

Cost and Funding

Cost Summary - Total Program

| Total Acquisition Cost - Total Program | | | | | | | |
|--|-----------------------------------|---|-----|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2012 \$M | | | BY 2012 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 59677.3 | 70501.2 | -- | 70301.7 | 55233.8 | 68246.0 | 67874.9 |
| Procurement | 266665.8 | 271899.2 | -- | 265627.6 | 335680.7 | 363058.3 | 355283.2 |
| Flyaway | -- | -- | -- | 234152.9 | -- | -- | 316665.7 |
| Recurring | -- | -- | -- | 207562.6 | -- | -- | 281695.8 |
| Non Recurring | -- | -- | -- | 26590.3 | -- | -- | 34969.9 |
| Support | -- | -- | -- | 31474.7 | -- | -- | 38617.5 |
| Other Support | -- | -- | -- | 20554.6 | -- | -- | 25481.3 |
| Initial Spares | -- | -- | -- | 10920.1 | -- | -- | 13136.2 |
| MILCON | 4168.0 | 4168.0 | -- | 4525.7 | 4797.3 | 4797.3 | 5224.6 |
| Acq O&M | 0.0 | 0.0 | -- | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 330511.1 | 346568.4 | N/A | 340455.0 | 395711.8 | 436101.6 | 428382.7 |

Cost and Funding

Cost Summary - F-35 Aircraft

| Total Acquisition Cost - F-35 Aircraft | | | | | | | |
|--|-----------------------------------|---|----------|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2012 \$M | | | BY 2012 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 47982.1 | 57155.8 | 62871.4 | 56768.3 | 44410.1 | 55948.7 | 55406.3 |
| Procurement | 224332.9 | 230886.4 | 253975.0 | 225144.5 | 282647.8 | 308976.5 | 301816.4 |
| Flyaway | -- | -- | -- | 199155.9 | -- | -- | 269876.9 |
| Recurring | -- | -- | -- | 175449.5 | -- | -- | 238581.5 |
| Non Recurring | -- | -- | -- | 23706.4 | -- | -- | 31295.4 |
| Support | -- | -- | -- | 25988.6 | -- | -- | 31939.5 |
| Other Support | -- | -- | -- | 18267.8 | -- | -- | 22679.7 |
| Initial Spares | -- | -- | -- | 7720.8 | -- | -- | 9259.8 |
| MILCON | 4168.0 | 4168.0 | 4584.8 | 4525.7 | 4797.3 | 4797.3 | 5224.6 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 276483.0 | 292210.2 | N/A | 286438.5 | 331855.2 | 369722.5 | 362447.3 |

Current APB Cost Estimate Reference

RDT&E = July 2018 Program Office Estimate for Block 4; Procurement = June 2018 Program Office Estimate for Production dated December 20, 2018

Cost Notes

The F-35 Program cost estimate does not have any risk dollars or risk items specifically priced into the estimate.

| Total Quantity - F-35 Aircraft | | | | |
|--------------------------------|-----------------------------------|-------------------------|------------------|------|
| Quantity | SAR Baseline Development Estimate | Current APB Development | Current Estimate | |
| RDT&E | | 14 | 14 | 14 |
| Procurement | | 2443 | 2456 | 2456 |
| Total | | 2457 | 2470 | 2470 |

Quantity Notes

The current estimate for F-35 total procurement quantity increase from 2443 to 2456 has not changed from SAR 2017 to SAR 2018.

Cost Summary - F-35 Engine

| Total Acquisition Cost - F-35 Engine | | | | | | | |
|--------------------------------------|-----------------------------------|---|---------|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2012 \$M | | | BY 2012 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 11695.2 | 13345.4 | 14234.7 | 13533.4 | 10823.7 | 12297.3 | 12468.6 |
| Procurement | 42332.9 | 41012.8 | 46566.2 | 40483.1 | 53032.9 | 54081.8 | 53466.8 |
| Flyaway | -- | -- | -- | 34997.0 | -- | -- | 46788.8 |
| Recurring | -- | -- | -- | 32113.1 | -- | -- | 43114.3 |
| Non Recurring | -- | -- | -- | 2883.9 | -- | -- | 3674.5 |
| Support | -- | -- | -- | 5486.1 | -- | -- | 6678.0 |
| Other Support | -- | -- | -- | 2286.8 | -- | -- | 2801.6 |
| Initial Spares | -- | -- | -- | 3199.3 | -- | -- | 3876.4 |
| MILCON | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 54028.1 | 54358.2 | N/A | 54016.5 | 63856.6 | 66379.1 | 65935.4 |

Current APB Cost Estimate Reference

RDT&E = July 2018 Program Office Estimate for Block 4; Procurement = June 2018 Program Office Estimate for Production dated December 20, 2018

Cost Notes

The F-35 Program cost estimate does not have any risk dollars or risk items specifically priced into the estimate.

| Total Quantity - F-35 Engine | | | |
|------------------------------|-----------------------------------|-------------------------|------------------|
| Quantity | SAR Baseline Development Estimate | Current APB Development | Current Estimate |
| RDT&E | 14 | 14 | 14 |
| Procurement | 2443 | 2456 | 2456 |
| Total | 2457 | 2470 | 2470 |

Quantity Notes

The current estimate for F-35 total procurement quantity increase from 2443 to 2456 has not changed from SAR 2017 to SAR 2018.

Cost and Funding

Funding Summary - Total Program

| Appropriation Summary | | | | | | | | | |
|---|----------|---------|---------|---------|---------|---------|---------|-------------|----------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| RDT&E | 56930.9 | 1510.8 | 2316.3 | 2266.6 | 1777.4 | 1572.2 | 1500.7 | 0.0 | 67874.9 |
| Procurement | 78233.4 | 11169.5 | 10328.1 | 10482.3 | 11417.2 | 11571.4 | 11714.5 | 210366.8 | 355283.2 |
| MILCON | 2415.6 | 589.7 | 403.0 | 447.7 | 611.1 | 366.8 | 390.7 | 0.0 | 5224.6 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PB 2020 Total | 137579.9 | 13270.0 | 13047.4 | 13196.6 | 13805.7 | 13510.4 | 13605.9 | 210366.8 | 428382.7 |
| PB 2019 Total | 133008.5 | 10075.0 | 10568.3 | 12110.9 | 12011.6 | 12739.1 | 13873.5 | 201744.1 | 406131.0 |
| Delta | 4571.4 | 3195.0 | 2479.1 | 1085.7 | 1794.1 | 771.3 | -267.6 | 8622.7 | 22251.7 |

Cost and Funding

Funding Summary - F-35 Aircraft

| Appropriation Summary | | | | | | | | | |
|---|----------|---------|---------|---------|---------|---------|---------|-------------|----------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| RDT&E | 45007.7 | 1362.0 | 2218.9 | 2170.6 | 1705.3 | 1507.8 | 1434.0 | 0.0 | 55406.3 |
| Procurement | 66310.0 | 9180.9 | 8688.7 | 8723.6 | 9506.7 | 9570.7 | 9646.8 | 180189.0 | 301816.4 |
| MILCON | 2415.6 | 589.7 | 403.0 | 447.7 | 611.1 | 366.8 | 390.7 | 0.0 | 5224.6 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PB 2020 Total | 113733.3 | 11132.6 | 11310.6 | 11341.9 | 11823.1 | 11445.3 | 11471.5 | 180189.0 | 362447.3 |
| PB 2019 Total | 109516.6 | 8438.2 | 8809.3 | 10090.5 | 9987.0 | 10603.4 | 11481.9 | 172565.4 | 341492.3 |
| Delta | 4216.7 | 2694.4 | 2501.3 | 1251.4 | 1836.1 | 841.9 | -10.4 | 7623.6 | 20955.0 |

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| Development | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Production | 0 | 449 | 93 | 78 | 81 | 94 | 95 | 94 | 1472 | 2456 |
| PB 2020 Total | 14 | 449 | 93 | 78 | 81 | 94 | 95 | 94 | 1472 | 2470 |
| PB 2019 Total | 14 | 429 | 77 | 84 | 98 | 98 | 99 | 105 | 1466 | 2470 |
| Delta | 0 | 20 | 16 | -6 | -17 | -4 | -4 | -11 | 6 | 0 |

Funding Summary - F-35 Engine

| Appropriation Summary | | | | | | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|-------------|---------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| RDT&E | 11923.2 | 148.8 | 97.4 | 96.0 | 72.1 | 64.4 | 66.7 | 0.0 | 12468.6 |
| Procurement | 11923.4 | 1988.6 | 1639.4 | 1758.7 | 1910.5 | 2000.7 | 2067.7 | 30177.8 | 53466.8 |
| MILCON | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PB 2020 Total | 23846.6 | 2137.4 | 1736.8 | 1854.7 | 1982.6 | 2065.1 | 2134.4 | 30177.8 | 65935.4 |
| PB 2019 Total | 23491.9 | 1636.8 | 1759.0 | 2020.4 | 2024.6 | 2135.7 | 2391.6 | 29178.7 | 64638.7 |
| Delta | 354.7 | 500.6 | -22.2 | -165.7 | -42.0 | -70.6 | -257.2 | 999.1 | 1296.7 |

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| Development | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Production | 0 | 449 | 93 | 78 | 81 | 94 | 95 | 94 | 1472 | 2456 |
| PB 2020 Total | 14 | 449 | 93 | 78 | 81 | 94 | 95 | 94 | 1472 | 2470 |
| PB 2019 Total | 14 | 429 | 77 | 84 | 98 | 98 | 99 | 105 | 1466 | 2470 |
| Delta | 0 | 20 | 16 | -6 | -17 | -4 | -4 | -11 | 6 | 0 |

Cost and Funding

Annual Funding By Appropriation - F-35 Aircraft

| Annual Funding - F-35 Aircraft | | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|----|---------------|
| 0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide | | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | | Total Program |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | | |
| 1996 | -- | -- | -- | -- | -- | -- | -- | 23.2 |
| 1997 | -- | -- | -- | -- | -- | -- | -- | 54.8 |
| 1998 | -- | -- | -- | -- | -- | -- | -- | 16.9 |
| Subtotal | -- | -- | -- | -- | -- | -- | -- | 94.9 |

| Annual Funding - F-35 Aircraft | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1996 | -- | -- | -- | -- | -- | -- | 30.1 |
| 1997 | -- | -- | -- | -- | -- | -- | 70.2 |
| 1998 | -- | -- | -- | -- | -- | -- | 21.5 |
| Subtotal | -- | -- | -- | -- | -- | -- | 121.8 |

| Annual Funding - F-35 Aircraft | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 3600 RDT&E Research, Development, Test, and Evaluation, Air Force | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1995 | -- | -- | -- | -- | -- | -- | 67.5 |
| 1996 | -- | -- | -- | -- | -- | -- | 65.4 |
| 1997 | -- | -- | -- | -- | -- | -- | 202.3 |
| 1998 | -- | -- | -- | -- | -- | -- | 357.2 |
| 1999 | -- | -- | -- | -- | -- | -- | 366.5 |
| 2000 | -- | -- | -- | -- | -- | -- | 200.3 |
| 2001 | -- | -- | -- | -- | -- | -- | 274.3 |
| 2002 | -- | -- | -- | -- | -- | -- | 302.6 |
| 2003 | -- | -- | -- | -- | -- | -- | 1210.1 |
| 2004 | -- | -- | -- | -- | -- | -- | 1584.1 |
| 2005 | -- | -- | -- | -- | -- | -- | 1465.8 |
| 2006 | -- | -- | -- | -- | -- | -- | 1678.6 |
| 2007 | -- | -- | -- | -- | -- | -- | 1632.4 |
| 2008 | -- | -- | -- | -- | -- | -- | 1359.0 |
| 2009 | -- | -- | -- | -- | -- | -- | 1197.5 |
| 2010 | -- | -- | -- | -- | -- | -- | 1567.4 |
| 2011 | -- | -- | -- | -- | -- | -- | 715.4 |
| 2012 | -- | -- | -- | -- | -- | -- | 1271.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 986.2 |
| 2014 | -- | -- | -- | -- | -- | -- | 567.5 |
| 2015 | -- | -- | -- | -- | -- | -- | 545.2 |
| 2016 | -- | -- | -- | -- | -- | -- | 593.1 |
| 2017 | -- | -- | -- | -- | -- | -- | 461.5 |
| 2018 | -- | -- | -- | -- | -- | -- | 592.0 |
| 2019 | -- | -- | -- | -- | -- | -- | 523.3 |
| 2020 | -- | -- | -- | -- | -- | -- | 761.9 |
| 2021 | -- | -- | -- | -- | -- | -- | 878.2 |
| 2022 | -- | -- | -- | -- | -- | -- | 589.3 |
| 2023 | -- | -- | -- | -- | -- | -- | 463.5 |
| 2024 | -- | -- | -- | -- | -- | -- | 510.7 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 22990.0 |

| Annual Funding - F-35 Aircraft | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 3600 RDT&E Research, Development, Test, and Evaluation, Air Force | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1995 | -- | -- | -- | -- | -- | -- | 89.1 |
| 1996 | -- | -- | -- | -- | -- | -- | 84.9 |
| 1997 | -- | -- | -- | -- | -- | -- | 259.5 |
| 1998 | -- | -- | -- | -- | -- | -- | 454.5 |
| 1999 | -- | -- | -- | -- | -- | -- | 460.9 |
| 2000 | -- | -- | -- | -- | -- | -- | 248.3 |
| 2001 | -- | -- | -- | -- | -- | -- | 335.4 |
| 2002 | -- | -- | -- | -- | -- | -- | 366.3 |
| 2003 | -- | -- | -- | -- | -- | -- | 1443.6 |
| 2004 | -- | -- | -- | -- | -- | -- | 1838.4 |
| 2005 | -- | -- | -- | -- | -- | -- | 1657.5 |
| 2006 | -- | -- | -- | -- | -- | -- | 1840.8 |
| 2007 | -- | -- | -- | -- | -- | -- | 1747.3 |
| 2008 | -- | -- | -- | -- | -- | -- | 1428.6 |
| 2009 | -- | -- | -- | -- | -- | -- | 1242.9 |
| 2010 | -- | -- | -- | -- | -- | -- | 1602.8 |
| 2011 | -- | -- | -- | -- | -- | -- | 714.5 |
| 2012 | -- | -- | -- | -- | -- | -- | 1248.9 |
| 2013 | -- | -- | -- | -- | -- | -- | 958.8 |
| 2014 | -- | -- | -- | -- | -- | -- | 543.9 |
| 2015 | -- | -- | -- | -- | -- | -- | 516.2 |
| 2016 | -- | -- | -- | -- | -- | -- | 551.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 421.5 |
| 2018 | -- | -- | -- | -- | -- | -- | 529.8 |
| 2019 | -- | -- | -- | -- | -- | -- | 459.1 |
| 2020 | -- | -- | -- | -- | -- | -- | 655.3 |
| 2021 | -- | -- | -- | -- | -- | -- | 740.6 |
| 2022 | -- | -- | -- | -- | -- | -- | 487.2 |
| 2023 | -- | -- | -- | -- | -- | -- | 375.7 |
| 2024 | -- | -- | -- | -- | -- | -- | 405.8 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 23709.7 |

SAR 18 includes Concept Demonstration Phase (CDP), System Development and Demonstration (SDD), Deployability and Suitability (D&S), Continuous Capability Development and Delivery (C2D2) (Block 4, USAF Unique), Dual Capable Aircraft (DCA).

| Annual Funding - F-35 Aircraft 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 23.7 |
| 1995 | -- | -- | -- | -- | -- | -- | 78.7 |
| 1996 | -- | -- | -- | -- | -- | -- | 64.6 |
| 1997 | -- | -- | -- | -- | -- | -- | 195.6 |
| 1998 | -- | -- | -- | -- | -- | -- | 360.4 |
| 1999 | -- | -- | -- | -- | -- | -- | 378.9 |
| 2000 | -- | -- | -- | -- | -- | -- | 191.7 |
| 2001 | -- | -- | -- | -- | -- | -- | 274.3 |
| 2002 | -- | -- | -- | -- | -- | -- | 370.8 |
| 2003 | -- | -- | -- | -- | -- | -- | 1090.1 |
| 2004 | -- | -- | -- | -- | -- | -- | 1548.2 |
| 2005 | -- | -- | -- | -- | -- | -- | 1511.3 |
| 2006 | -- | -- | -- | -- | -- | -- | 1657.3 |
| 2007 | -- | -- | -- | -- | -- | -- | 1470.7 |
| 2008 | -- | -- | -- | -- | -- | -- | 1285.0 |
| 2009 | -- | -- | -- | -- | -- | -- | 1271.2 |
| 2010 | -- | -- | -- | -- | -- | -- | 1440.5 |
| 2011 | -- | -- | -- | -- | -- | -- | 987.9 |
| 2012 | -- | -- | -- | -- | -- | -- | 960.1 |
| 2013 | -- | -- | -- | -- | -- | -- | 1082.0 |
| 2014 | -- | -- | -- | -- | -- | -- | 719.3 |
| 2015 | -- | -- | -- | -- | -- | -- | 827.5 |
| 2016 | -- | -- | -- | -- | -- | -- | 956.2 |
| 2017 | -- | -- | -- | -- | -- | -- | 1039.6 |
| 2018 | -- | -- | -- | -- | -- | -- | 528.8 |
| 2019 | -- | -- | -- | -- | -- | -- | 507.5 |
| 2020 | -- | -- | -- | -- | -- | -- | 769.3 |
| 2021 | -- | -- | -- | -- | -- | -- | 689.4 |
| 2022 | -- | -- | -- | -- | -- | -- | 548.6 |
| 2023 | -- | -- | -- | -- | -- | -- | 510.2 |
| 2024 | -- | -- | -- | -- | -- | -- | 491.0 |
| Subtotal | 9 | -- | -- | -- | -- | -- | 23830.4 |

| Annual Funding - F-35 Aircraft | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 31.9 |
| 1995 | -- | -- | -- | -- | -- | -- | 103.9 |
| 1996 | -- | -- | -- | -- | -- | -- | 83.9 |
| 1997 | -- | -- | -- | -- | -- | -- | 250.9 |
| 1998 | -- | -- | -- | -- | -- | -- | 458.6 |
| 1999 | -- | -- | -- | -- | -- | -- | 476.5 |
| 2000 | -- | -- | -- | -- | -- | -- | 237.6 |
| 2001 | -- | -- | -- | -- | -- | -- | 335.4 |
| 2002 | -- | -- | -- | -- | -- | -- | 448.8 |
| 2003 | -- | -- | -- | -- | -- | -- | 1300.4 |
| 2004 | -- | -- | -- | -- | -- | -- | 1796.8 |
| 2005 | -- | -- | -- | -- | -- | -- | 1709.0 |
| 2006 | -- | -- | -- | -- | -- | -- | 1817.4 |
| 2007 | -- | -- | -- | -- | -- | -- | 1574.3 |
| 2008 | -- | -- | -- | -- | -- | -- | 1350.8 |
| 2009 | -- | -- | -- | -- | -- | -- | 1319.4 |
| 2010 | -- | -- | -- | -- | -- | -- | 1473.0 |
| 2011 | -- | -- | -- | -- | -- | -- | 986.6 |
| 2012 | -- | -- | -- | -- | -- | -- | 943.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 1051.9 |
| 2014 | -- | -- | -- | -- | -- | -- | 689.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 783.4 |
| 2016 | -- | -- | -- | -- | -- | -- | 889.3 |
| 2017 | -- | -- | -- | -- | -- | -- | 949.5 |
| 2018 | -- | -- | -- | -- | -- | -- | 473.2 |
| 2019 | -- | -- | -- | -- | -- | -- | 445.2 |
| 2020 | -- | -- | -- | -- | -- | -- | 661.7 |
| 2021 | -- | -- | -- | -- | -- | -- | 581.4 |
| 2022 | -- | -- | -- | -- | -- | -- | 453.5 |
| 2023 | -- | -- | -- | -- | -- | -- | 413.5 |
| 2024 | -- | -- | -- | -- | -- | -- | 390.2 |
| Subtotal | 9 | -- | -- | -- | -- | -- | 24480.6 |

SAR-18 includes CDP, SDD, D&S, C2D2 (Block 4)

| Annual Funding - F-35 Aircraft 9999 RDT&E Non Treasury Funds | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1996 | -- | -- | -- | -- | -- | -- | 11.3 |
| 1997 | -- | -- | -- | -- | -- | -- | 67.1 |
| 1998 | -- | -- | -- | -- | -- | -- | 72.1 |
| 1999 | -- | -- | -- | -- | -- | -- | 49.0 |
| 2000 | -- | -- | -- | -- | -- | -- | 27.7 |
| 2001 | -- | -- | -- | -- | -- | -- | 7.0 |
| 2002 | -- | -- | -- | -- | -- | -- | 258.0 |
| 2003 | -- | -- | -- | -- | -- | -- | 299.0 |
| 2004 | -- | -- | -- | -- | -- | -- | 494.9 |
| 2005 | -- | -- | -- | -- | -- | -- | 733.3 |
| 2006 | -- | -- | -- | -- | -- | -- | 813.4 |
| 2007 | -- | -- | -- | -- | -- | -- | 680.3 |
| 2008 | -- | -- | -- | -- | -- | -- | 607.3 |
| 2009 | -- | -- | -- | -- | -- | -- | 267.5 |
| 2010 | -- | -- | -- | -- | -- | -- | 141.2 |
| 2011 | -- | -- | -- | -- | -- | -- | 176.9 |
| 2012 | -- | -- | -- | -- | -- | -- | 104.9 |
| 2013 | -- | -- | -- | -- | -- | -- | 169.2 |
| 2014 | -- | -- | -- | -- | -- | -- | 12.9 |
| 2015 | -- | -- | -- | -- | -- | -- | 46.0 |
| 2016 | -- | -- | -- | -- | -- | -- | 83.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 84.6 |
| 2018 | -- | -- | -- | -- | -- | -- | 128.1 |
| 2019 | -- | -- | -- | -- | -- | -- | 331.2 |
| 2020 | -- | -- | -- | -- | -- | -- | 687.7 |
| 2021 | -- | -- | -- | -- | -- | -- | 603.0 |
| 2022 | -- | -- | -- | -- | -- | -- | 567.4 |
| 2023 | -- | -- | -- | -- | -- | -- | 534.1 |
| 2024 | -- | -- | -- | -- | -- | -- | 432.3 |
| Subtotal | -- | -- | -- | -- | -- | -- | 8491.0 |

| Annual Funding - F-35 Aircraft 9999 RDT&E Non Treasury Funds | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1996 | -- | -- | -- | -- | -- | -- | 14.7 |
| 1997 | -- | -- | -- | -- | -- | -- | 86.1 |
| 1998 | -- | -- | -- | -- | -- | -- | 91.7 |
| 1999 | -- | -- | -- | -- | -- | -- | 61.6 |
| 2000 | -- | -- | -- | -- | -- | -- | 34.3 |
| 2001 | -- | -- | -- | -- | -- | -- | 8.6 |
| 2002 | -- | -- | -- | -- | -- | -- | 312.3 |
| 2003 | -- | -- | -- | -- | -- | -- | 356.7 |
| 2004 | -- | -- | -- | -- | -- | -- | 574.4 |
| 2005 | -- | -- | -- | -- | -- | -- | 829.2 |
| 2006 | -- | -- | -- | -- | -- | -- | 892.0 |
| 2007 | -- | -- | -- | -- | -- | -- | 728.2 |
| 2008 | -- | -- | -- | -- | -- | -- | 638.4 |
| 2009 | -- | -- | -- | -- | -- | -- | 277.6 |
| 2010 | -- | -- | -- | -- | -- | -- | 144.4 |
| 2011 | -- | -- | -- | -- | -- | -- | 176.7 |
| 2012 | -- | -- | -- | -- | -- | -- | 103.1 |
| 2013 | -- | -- | -- | -- | -- | -- | 164.5 |
| 2014 | -- | -- | -- | -- | -- | -- | 12.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 43.5 |
| 2016 | -- | -- | -- | -- | -- | -- | 77.8 |
| 2017 | -- | -- | -- | -- | -- | -- | 77.3 |
| 2018 | -- | -- | -- | -- | -- | -- | 114.6 |
| 2019 | -- | -- | -- | -- | -- | -- | 290.6 |
| 2020 | -- | -- | -- | -- | -- | -- | 591.5 |
| 2021 | -- | -- | -- | -- | -- | -- | 508.5 |
| 2022 | -- | -- | -- | -- | -- | -- | 469.1 |
| 2023 | -- | -- | -- | -- | -- | -- | 432.9 |
| 2024 | -- | -- | -- | -- | -- | -- | 343.5 |
| Subtotal | -- | -- | -- | -- | -- | -- | 8456.2 |

| Annual Funding - F-35 Aircraft | | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| 3010 Procurement Aircraft Procurement, Air Force | | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2006 | -- | 107.6 | -- | -- | 107.6 | -- | 107.6 | |
| 2007 | 2 | 428.5 | -- | 80.8 | 509.3 | 91.1 | 600.4 | |
| 2008 | 6 | 983.1 | -- | 172.3 | 1155.4 | 131.5 | 1286.9 | |
| 2009 | 7 | 1009.2 | -- | 277.6 | 1286.8 | 175.8 | 1462.6 | |
| 2010 | 10 | 1471.2 | -- | 355.7 | 1826.9 | 277.7 | 2104.6 | |
| 2011 | 22 | 2751.2 | -- | 569.1 | 3320.3 | 679.6 | 3999.9 | |
| 2012 | 18 | 2041.5 | -- | 375.7 | 2417.2 | 773.0 | 3190.2 | |
| 2013 | 19 | 2074.6 | -- | 76.6 | 2151.2 | 528.9 | 2680.1 | |
| 2014 | 19 | 2034.6 | -- | 586.7 | 2621.3 | 433.0 | 3054.3 | |
| 2015 | 28 | 2715.8 | -- | 542.0 | 3257.8 | 623.0 | 3880.8 | |
| 2016 | 47 | 4076.0 | -- | 503.5 | 4579.5 | 624.2 | 5203.7 | |
| 2017 | 48 | 3799.3 | -- | 213.8 | 4013.1 | 606.9 | 4620.0 | |
| 2018 | 56 | 4457.0 | -- | 746.8 | 5203.8 | 774.6 | 5978.4 | |
| 2019 | 56 | 3772.9 | -- | 544.8 | 4317.7 | 629.6 | 4947.3 | |
| 2020 | 48 | 3442.0 | -- | 674.9 | 4116.9 | 716.6 | 4833.5 | |
| 2021 | 48 | 3532.8 | -- | 475.7 | 4008.5 | 879.9 | 4888.4 | |
| 2022 | 48 | 3294.4 | -- | 548.8 | 3843.2 | 697.4 | 4540.6 | |
| 2023 | 48 | 3827.1 | -- | 132.1 | 3959.2 | 695.8 | 4655.0 | |
| 2024 | 48 | 3672.1 | -- | 116.1 | 3788.2 | 743.0 | 4531.2 | |
| 2025 | 60 | 4358.8 | -- | 806.3 | 5165.1 | 817.8 | 5982.9 | |
| 2026 | 60 | 4403.5 | -- | 769.6 | 5173.1 | 441.3 | 5614.4 | |
| 2027 | 60 | 4831.1 | -- | 820.9 | 5652.0 | 436.4 | 6088.4 | |
| 2028 | 60 | 5624.8 | -- | 823.8 | 6448.6 | 543.1 | 6991.7 | |
| 2029 | 60 | 5372.2 | -- | 798.8 | 6171.0 | 389.1 | 6560.1 | |
| 2030 | 60 | 4906.1 | -- | 886.2 | 5792.3 | 459.7 | 6252.0 | |
| 2031 | 60 | 5249.8 | -- | 659.9 | 5909.7 | 378.5 | 6288.2 | |
| 2032 | 60 | 6063.1 | -- | 759.3 | 6822.4 | 579.2 | 7401.6 | |
| 2033 | 60 | 7018.7 | -- | 742.5 | 7761.2 | 339.9 | 8101.1 | |
| 2034 | 60 | 6658.2 | -- | 614.8 | 7273.0 | 499.0 | 7772.0 | |
| 2035 | 60 | 6056.4 | -- | 621.8 | 6678.2 | 520.7 | 7198.9 | |
| 2036 | 60 | 6169.0 | -- | 631.3 | 6800.3 | 394.6 | 7194.9 | |
| 2037 | 60 | 6753.1 | -- | 684.2 | 7437.3 | 473.0 | 7910.3 | |
| 2038 | 60 | 7648.3 | -- | 698.0 | 8346.3 | 421.1 | 8767.4 | |
| 2039 | 60 | 7265.9 | -- | 711.8 | 7977.7 | 587.4 | 8565.1 | |
| 2040 | 60 | 6630.6 | -- | 718.9 | 7349.5 | 212.0 | 7561.5 | |
| 2041 | 60 | 6761.3 | -- | 728.1 | 7489.4 | 53.1 | 7542.5 | |
| 2042 | 60 | 7410.8 | -- | 738.4 | 8149.2 | 46.6 | 8195.8 | |
| 2043 | 60 | 7516.0 | -- | 668.6 | 8184.6 | 52.0 | 8236.6 | |
| 2044 | 45 | 6273.5 | -- | 538.8 | 6812.3 | 52.7 | 6865.0 | |
| Subtotal | 1763 | 172462.1 | -- | 21415.0 | 193877.1 | 17778.8 | 211655.9 | |

| Annual Funding - F-35 Aircraft | | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| 3010 Procurement Aircraft Procurement, Air Force | | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2006 | -- | 116.3 | -- | -- | 116.3 | -- | 116.3 | |
| 2007 | 2 | 452.5 | -- | 85.4 | 537.9 | 96.2 | 634.1 | |
| 2008 | 6 | 1022.9 | -- | 179.3 | 1202.2 | 136.8 | 1339.0 | |
| 2009 | 7 | 1035.7 | -- | 284.7 | 1320.4 | 180.5 | 1500.9 | |
| 2010 | 10 | 1478.8 | -- | 357.6 | 1836.4 | 279.1 | 2115.5 | |
| 2011 | 22 | 2711.7 | -- | 560.9 | 3272.6 | 669.8 | 3942.4 | |
| 2012 | 18 | 1983.6 | -- | 365.0 | 2348.6 | 751.2 | 3099.8 | |
| 2013 | 19 | 1994.2 | -- | 73.6 | 2067.8 | 508.5 | 2576.3 | |
| 2014 | 19 | 1930.5 | -- | 556.7 | 2487.2 | 410.9 | 2898.1 | |
| 2015 | 28 | 2538.6 | -- | 506.7 | 3045.3 | 582.3 | 3627.6 | |
| 2016 | 47 | 3732.7 | -- | 461.1 | 4193.8 | 571.6 | 4765.4 | |
| 2017 | 48 | 3410.4 | -- | 191.9 | 3602.3 | 544.8 | 4147.1 | |
| 2018 | 56 | 3921.3 | -- | 657.0 | 4578.3 | 681.5 | 5259.8 | |
| 2019 | 56 | 3254.3 | -- | 469.9 | 3724.2 | 543.1 | 4267.3 | |
| 2020 | 48 | 2910.7 | -- | 570.7 | 3481.4 | 606.0 | 4087.4 | |
| 2021 | 48 | 2928.9 | -- | 394.4 | 3323.3 | 729.4 | 4052.7 | |
| 2022 | 48 | 2677.7 | -- | 446.1 | 3123.8 | 566.8 | 3690.6 | |
| 2023 | 48 | 3049.7 | -- | 105.3 | 3155.0 | 554.4 | 3709.4 | |
| 2024 | 48 | 2868.8 | -- | 90.7 | 2959.5 | 580.4 | 3539.9 | |
| 2025 | 60 | 3338.5 | -- | 617.6 | 3956.1 | 626.3 | 4582.4 | |
| 2026 | 60 | 3306.6 | -- | 578.0 | 3884.6 | 331.3 | 4215.9 | |
| 2027 | 60 | 3556.5 | -- | 604.4 | 4160.9 | 321.2 | 4482.1 | |
| 2028 | 60 | 4059.7 | -- | 594.5 | 4654.2 | 392.0 | 5046.2 | |
| 2029 | 60 | 3801.3 | -- | 565.3 | 4366.6 | 275.3 | 4641.9 | |
| 2030 | 60 | 3403.4 | -- | 614.8 | 4018.2 | 318.9 | 4337.1 | |
| 2031 | 60 | 3570.5 | -- | 448.8 | 4019.3 | 257.4 | 4276.7 | |
| 2032 | 60 | 4042.7 | -- | 506.3 | 4549.0 | 386.2 | 4935.2 | |
| 2033 | 60 | 4588.1 | -- | 485.4 | 5073.5 | 222.2 | 5295.7 | |
| 2034 | 60 | 4267.1 | -- | 394.1 | 4661.2 | 319.8 | 4981.0 | |
| 2035 | 60 | 3805.4 | -- | 390.7 | 4196.1 | 327.1 | 4523.2 | |
| 2036 | 60 | 3800.1 | -- | 388.9 | 4189.0 | 243.1 | 4432.1 | |
| 2037 | 60 | 4078.3 | -- | 413.3 | 4491.6 | 285.6 | 4777.2 | |
| 2038 | 60 | 4528.4 | -- | 413.2 | 4941.6 | 249.4 | 5191.0 | |
| 2039 | 60 | 4217.6 | -- | 413.3 | 4630.9 | 340.9 | 4971.8 | |
| 2040 | 60 | 3773.4 | -- | 409.2 | 4182.6 | 120.6 | 4303.2 | |
| 2041 | 60 | 3772.3 | -- | 406.3 | 4178.6 | 29.6 | 4208.2 | |
| 2042 | 60 | 4053.6 | -- | 403.9 | 4457.5 | 25.5 | 4483.0 | |
| 2043 | 60 | 4030.6 | -- | 358.5 | 4389.1 | 27.9 | 4417.0 | |
| 2044 | 45 | 3298.3 | -- | 283.3 | 3581.6 | 27.7 | 3609.3 | |
| Subtotal | 1763 | 121311.7 | -- | 15646.8 | 136958.5 | 14121.3 | 151079.8 | |

| Cost Quantity Information - F-35 Aircraft 3010 Procurement Aircraft Procurement, Air Force | | |
|---|----------|---|
| Fiscal Year | Quantity | End Item Recurring Flyaway (Aligned With Quantity) BY 2012 \$M |
| 2006 | -- | -- |
| 2007 | 2 | 452.5 |
| 2008 | 6 | 1022.9 |
| 2009 | 7 | 1035.7 |
| 2010 | 10 | 1478.8 |
| 2011 | 22 | 2711.7 |
| 2012 | 18 | 1983.6 |
| 2013 | 19 | 1994.2 |
| 2014 | 19 | 1930.5 |
| 2015 | 28 | 2538.6 |
| 2016 | 47 | 3732.7 |
| 2017 | 48 | 3410.4 |
| 2018 | 56 | 3921.3 |
| 2019 | 56 | 3254.3 |
| 2020 | 48 | 2910.7 |
| 2021 | 48 | 2928.9 |
| 2022 | 48 | 2677.7 |
| 2023 | 48 | 3049.7 |
| 2024 | 48 | 2868.8 |
| 2025 | 60 | 3338.5 |
| 2026 | 60 | 3306.6 |
| 2027 | 60 | 3556.5 |
| 2028 | 60 | 4059.7 |
| 2029 | 60 | 3801.3 |
| 2030 | 60 | 3403.4 |
| 2031 | 60 | 3570.5 |
| 2032 | 60 | 4042.7 |
| 2033 | 60 | 4588.1 |
| 2034 | 60 | 4267.1 |
| 2035 | 60 | 3805.4 |
| 2036 | 60 | 3800.1 |
| 2037 | 60 | 4078.3 |
| 2038 | 60 | 4528.4 |
| 2039 | 60 | 4217.6 |
| 2040 | 60 | 3773.4 |
| 2041 | 60 | 3772.3 |
| 2042 | 60 | 4053.6 |
| 2043 | 60 | 4030.6 |
| 2044 | 45 | 3414.6 |

| | | |
|----------|------|----------|
| Subtotal | 1763 | 121311.7 |
|----------|------|----------|

| Annual Funding - F-35 Aircraft | | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2007 | -- | 96.9 | -- | -- | 96.9 | -- | 96.9 | |
| 2008 | 6 | 923.2 | -- | 38.6 | 961.8 | 10.7 | 972.5 | |
| 2009 | 7 | 1062.0 | -- | 182.0 | 1244.0 | 206.1 | 1450.1 | |
| 2010 | 20 | 2681.2 | -- | 305.4 | 2986.6 | 560.9 | 3547.5 | |
| 2011 | 10 | 1494.8 | -- | 251.0 | 1745.8 | 431.8 | 2177.6 | |
| 2012 | 13 | 1477.7 | -- | 330.2 | 1807.9 | 746.7 | 2554.6 | |
| 2013 | 10 | 1107.3 | -- | 44.1 | 1151.4 | 557.3 | 1708.7 | |
| 2014 | 10 | 1205.5 | -- | 375.6 | 1581.1 | 642.3 | 2223.4 | |
| 2015 | 10 | 1115.0 | -- | 636.3 | 1751.3 | 410.1 | 2161.4 | |
| 2016 | 21 | 2130.3 | -- | 573.1 | 2703.4 | 644.9 | 3348.3 | |
| 2017 | 26 | 2502.2 | -- | 264.8 | 2767.0 | 623.9 | 3390.9 | |
| 2018 | 34 | 3264.7 | -- | 421.5 | 3686.2 | 822.4 | 4508.6 | |
| 2019 | 37 | 3045.1 | -- | 440.8 | 3485.9 | 747.7 | 4233.6 | |
| 2020 | 30 | 2681.0 | -- | 320.9 | 3001.9 | 853.3 | 3855.2 | |
| 2021 | 33 | 3051.0 | -- | 167.6 | 3218.6 | 616.6 | 3835.2 | |
| 2022 | 46 | 3973.5 | -- | 354.3 | 4327.8 | 638.3 | 4966.1 | |
| 2023 | 47 | 4060.0 | -- | 273.1 | 4333.1 | 582.6 | 4915.7 | |
| 2024 | 46 | 4113.6 | -- | 327.2 | 4440.8 | 674.8 | 5115.6 | |
| 2025 | 45 | 3773.7 | -- | 519.4 | 4293.1 | 578.8 | 4871.9 | |
| 2026 | 45 | 3772.1 | -- | 524.1 | 4296.2 | 454.0 | 4750.2 | |
| 2027 | 45 | 4118.1 | -- | 565.2 | 4683.3 | 466.3 | 5149.6 | |
| 2028 | 45 | 4496.2 | -- | 583.9 | 5080.1 | 497.2 | 5577.3 | |
| 2029 | 45 | 4434.8 | -- | 564.2 | 4999.0 | 391.3 | 5390.3 | |
| 2030 | 45 | 4007.5 | -- | 1086.6 | 5094.1 | 1004.4 | 6098.5 | |
| 2031 | 17 | 1532.0 | -- | 730.5 | 2262.5 | 998.3 | 3260.8 | |
| Subtotal | 693 | 66119.4 | -- | 9880.4 | 75999.8 | 14160.7 | 90160.5 | |

| Annual Funding - F-35 Aircraft | | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2007 | -- | 102.3 | -- | -- | 102.3 | -- | 102.3 | |
| 2008 | 6 | 960.6 | -- | 40.2 | 1000.8 | 11.1 | 1011.9 | |
| 2009 | 7 | 1089.8 | -- | 186.8 | 1276.6 | 211.5 | 1488.1 | |
| 2010 | 20 | 2695.1 | -- | 307.0 | 3002.1 | 563.8 | 3565.9 | |
| 2011 | 10 | 1473.3 | -- | 247.4 | 1720.7 | 425.6 | 2146.3 | |
| 2012 | 13 | 1435.8 | -- | 320.8 | 1756.6 | 725.6 | 2482.2 | |
| 2013 | 10 | 1064.4 | -- | 42.4 | 1106.8 | 535.7 | 1642.5 | |
| 2014 | 10 | 1143.8 | -- | 356.4 | 1500.2 | 609.5 | 2109.7 | |
| 2015 | 10 | 1042.2 | -- | 594.8 | 1637.0 | 383.4 | 2020.4 | |
| 2016 | 21 | 1950.9 | -- | 524.8 | 2475.7 | 590.6 | 3066.3 | |
| 2017 | 26 | 2246.1 | -- | 237.7 | 2483.8 | 560.0 | 3043.8 | |
| 2018 | 34 | 2872.3 | -- | 370.8 | 3243.1 | 723.6 | 3966.7 | |
| 2019 | 37 | 2626.5 | -- | 380.2 | 3006.7 | 645.0 | 3651.7 | |
| 2020 | 30 | 2267.1 | -- | 271.4 | 2538.5 | 721.6 | 3260.1 | |
| 2021 | 33 | 2529.4 | -- | 138.9 | 2668.3 | 511.3 | 3179.6 | |
| 2022 | 46 | 3229.7 | -- | 288.0 | 3517.7 | 518.7 | 4036.4 | |
| 2023 | 47 | 3235.3 | -- | 217.6 | 3452.9 | 464.2 | 3917.1 | |
| 2024 | 46 | 3213.7 | -- | 255.6 | 3469.3 | 527.2 | 3996.5 | |
| 2025 | 45 | 2890.3 | -- | 397.9 | 3288.2 | 443.3 | 3731.5 | |
| 2026 | 45 | 2832.5 | -- | 393.5 | 3226.0 | 340.9 | 3566.9 | |
| 2027 | 45 | 3031.6 | -- | 416.1 | 3447.7 | 343.3 | 3791.0 | |
| 2028 | 45 | 3245.1 | -- | 421.4 | 3666.5 | 358.9 | 4025.4 | |
| 2029 | 45 | 3138.0 | -- | 399.3 | 3537.3 | 276.8 | 3814.1 | |
| 2030 | 45 | 2780.1 | -- | 753.8 | 3533.9 | 696.7 | 4230.6 | |
| 2031 | 17 | 1041.9 | -- | 496.8 | 1538.7 | 679.0 | 2217.7 | |
| Subtotal | 693 | 54137.8 | -- | 8059.6 | 62197.4 | 11867.3 | 74064.7 | |

| Cost Quantity Information - F-35 Aircraft 1506 Procurement Aircraft Procurement, Navy | | |
|--|----------|---|
| Fiscal Year | Quantity | End Item Recurring Flyaway (Aligned With Quantity) BY 2012 \$M |
| 2007 | -- | -- |
| 2008 | 6 | 960.6 |
| 2009 | 7 | 1089.8 |
| 2010 | 20 | 2695.1 |
| 2011 | 10 | 1473.3 |
| 2012 | 13 | 1435.8 |
| 2013 | 10 | 1064.4 |
| 2014 | 10 | 1143.8 |
| 2015 | 10 | 1042.2 |
| 2016 | 21 | 1950.9 |
| 2017 | 26 | 2246.1 |
| 2018 | 34 | 2872.3 |
| 2019 | 37 | 2626.5 |
| 2020 | 30 | 2267.1 |
| 2021 | 33 | 2529.4 |
| 2022 | 46 | 3229.7 |
| 2023 | 47 | 3235.3 |
| 2024 | 46 | 3213.7 |
| 2025 | 45 | 2890.3 |
| 2026 | 45 | 2832.5 |
| 2027 | 45 | 3031.6 |
| 2028 | 45 | 3245.1 |
| 2029 | 45 | 3138.0 |
| 2030 | 45 | 2780.1 |
| 2031 | 17 | 1144.2 |
| Subtotal | 693 | 54137.8 |

| Annual Funding - F-35 Aircraft 1205 MILCON Military Construction, Navy and Marine Corps | | |
|--|---------------|--------|
| Fiscal Year | TY \$M | |
| | Total Program | |
| 2004 | | 24.4 |
| 2005 | | -- |
| 2006 | | 0.1 |
| 2007 | | -- |
| 2008 | | 0.2 |
| 2009 | | 0.7 |
| 2010 | | 34.1 |
| 2011 | | 377.9 |
| 2012 | | 172.2 |
| 2013 | | 94.9 |
| 2014 | | 1.2 |
| 2015 | | 118.4 |
| 2016 | | 64.7 |
| 2017 | | 66.7 |
| 2018 | | 15.7 |
| 2019 | | 274.6 |
| 2020 | | 346.4 |
| 2021 | | 178.0 |
| 2022 | | 357.3 |
| 2023 | | 288.5 |
| 2024 | | 109.7 |
| | Subtotal | 2525.7 |

| Annual Funding - F-35 Aircraft 1205 MILCON Military Construction, Navy and Marine Corps | | |
|--|---------------|--------|
| Fiscal Year | BY 2012 \$M | |
| | Total Program | |
| 2004 | | 27.8 |
| 2005 | | -- |
| 2006 | | 0.1 |
| 2007 | | -- |
| 2008 | | 0.2 |
| 2009 | | 0.7 |
| 2010 | | 34.1 |
| 2011 | | 369.3 |
| 2012 | | 165.8 |
| 2013 | | 90.1 |
| 2014 | | 1.1 |
| 2015 | | 107.9 |
| 2016 | | 57.8 |
| 2017 | | 58.4 |
| 2018 | | 13.5 |
| 2019 | | 231.2 |
| 2020 | | 286.0 |
| 2021 | | 144.1 |
| 2022 | | 283.5 |
| 2023 | | 224.4 |
| 2024 | | 83.7 |
| Subtotal | | 2179.7 |

All DoN MILCON funding is reflected in the Aircraft subprogram.

| Annual Funding - F-35 Aircraft 3300 MILCON Military Construction, Air Force | |
|--|------------------|
| Fiscal Year | TY \$M |
| | Total Program |
| 2004 | 1.7 |
| 2005 | 10.0 |
| 2006 | -- |
| 2007 | -- |
| 2008 | 100.3 |
| 2009 | 116.0 |
| 2010 | 125.1 |
| 2011 | 139.6 |
| 2012 | 24.3 |
| 2013 | 13.5 |
| 2014 | 56.0 |
| 2015 | 66.7 |
| 2016 | 201.3 |
| 2017 | 336.3 |
| 2018 | 253.6 |
| 2019 | 315.1 |
| 2020 | 56.6 |
| 2021 | 269.7 |
| 2022 | 253.8 |
| 2023 | 78.3 |
| 2024 | 281.0 |
| Subtotal | 2698.9 |

| Annual Funding - F-35 Aircraft 3300 MILCON Military Construction, Air Force | |
|--|------------------|
| Fiscal Year | BY 2012 \$M |
| | Total Program |
| 2004 | 1.9 |
| 2005 | 11.0 |
| 2006 | -- |
| 2007 | -- |
| 2008 | 104.1 |
| 2009 | 118.8 |
| 2010 | 125.0 |
| 2011 | 136.4 |
| 2012 | 23.4 |
| 2013 | 12.8 |
| 2014 | 52.4 |
| 2015 | 60.8 |
| 2016 | 179.9 |
| 2017 | 294.7 |
| 2018 | 217.8 |
| 2019 | 265.4 |
| 2020 | 46.7 |
| 2021 | 218.3 |
| 2022 | 201.4 |
| 2023 | 60.9 |
| 2024 | 214.3 |
| Subtotal | 2346.0 |

All Air Force F-35 MILCON funding is reflected in the Aircraft subprogram.

Annual Funding By Appropriation - F-35 Engine

| Annual Funding - F-35 Engine | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| 3600 RDT&E Research, Development, Test, and Evaluation, Air Force | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1995 | -- | -- | -- | -- | -- | -- | 16.4 |
| 1996 | -- | -- | -- | -- | -- | -- | 15.9 |
| 1997 | -- | -- | -- | -- | -- | -- | 49.3 |
| 1998 | -- | -- | -- | -- | -- | -- | 87.1 |
| 1999 | -- | -- | -- | -- | -- | -- | 89.4 |
| 2000 | -- | -- | -- | -- | -- | -- | 48.8 |
| 2001 | -- | -- | -- | -- | -- | -- | 66.9 |
| 2002 | -- | -- | -- | -- | -- | -- | 409.8 |
| 2003 | -- | -- | -- | -- | -- | -- | 400.5 |
| 2004 | -- | -- | -- | -- | -- | -- | 435.8 |
| 2005 | -- | -- | -- | -- | -- | -- | 614.3 |
| 2006 | -- | -- | -- | -- | -- | -- | 586.3 |
| 2007 | -- | -- | -- | -- | -- | -- | 441.6 |
| 2008 | -- | -- | -- | -- | -- | -- | 596.0 |
| 2009 | -- | -- | -- | -- | -- | -- | 544.6 |
| 2010 | -- | -- | -- | -- | -- | -- | 466.1 |
| 2011 | -- | -- | -- | -- | -- | -- | 216.2 |
| 2012 | -- | -- | -- | -- | -- | -- | 101.8 |
| 2013 | -- | -- | -- | -- | -- | -- | 143.6 |
| 2014 | -- | -- | -- | -- | -- | -- | 52.0 |
| 2015 | -- | -- | -- | -- | -- | -- | 53.7 |
| 2016 | -- | -- | -- | -- | -- | -- | 36.7 |
| 2017 | -- | -- | -- | -- | -- | -- | 46.3 |
| 2018 | -- | -- | -- | -- | -- | -- | 15.4 |
| 2019 | -- | -- | -- | -- | -- | -- | 49.6 |
| 2020 | -- | -- | -- | -- | -- | -- | 40.1 |
| 2021 | -- | -- | -- | -- | -- | -- | 46.2 |
| 2022 | -- | -- | -- | -- | -- | -- | 31.0 |
| 2023 | -- | -- | -- | -- | -- | -- | 24.4 |
| 2024 | -- | -- | -- | -- | -- | -- | 26.9 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 5752.7 |

| Annual Funding - F-35 Engine | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 3600 RDT&E Research, Development, Test, and Evaluation, Air Force | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1995 | -- | -- | -- | -- | -- | -- | 21.7 |
| 1996 | -- | -- | -- | -- | -- | -- | 20.6 |
| 1997 | -- | -- | -- | -- | -- | -- | 63.2 |
| 1998 | -- | -- | -- | -- | -- | -- | 110.8 |
| 1999 | -- | -- | -- | -- | -- | -- | 112.4 |
| 2000 | -- | -- | -- | -- | -- | -- | 60.5 |
| 2001 | -- | -- | -- | -- | -- | -- | 81.8 |
| 2002 | -- | -- | -- | -- | -- | -- | 496.0 |
| 2003 | -- | -- | -- | -- | -- | -- | 477.8 |
| 2004 | -- | -- | -- | -- | -- | -- | 505.8 |
| 2005 | -- | -- | -- | -- | -- | -- | 694.7 |
| 2006 | -- | -- | -- | -- | -- | -- | 643.0 |
| 2007 | -- | -- | -- | -- | -- | -- | 472.7 |
| 2008 | -- | -- | -- | -- | -- | -- | 626.5 |
| 2009 | -- | -- | -- | -- | -- | -- | 565.2 |
| 2010 | -- | -- | -- | -- | -- | -- | 476.6 |
| 2011 | -- | -- | -- | -- | -- | -- | 215.9 |
| 2012 | -- | -- | -- | -- | -- | -- | 100.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 139.6 |
| 2014 | -- | -- | -- | -- | -- | -- | 49.8 |
| 2015 | -- | -- | -- | -- | -- | -- | 50.8 |
| 2016 | -- | -- | -- | -- | -- | -- | 34.1 |
| 2017 | -- | -- | -- | -- | -- | -- | 42.3 |
| 2018 | -- | -- | -- | -- | -- | -- | 13.8 |
| 2019 | -- | -- | -- | -- | -- | -- | 43.5 |
| 2020 | -- | -- | -- | -- | -- | -- | 34.5 |
| 2021 | -- | -- | -- | -- | -- | -- | 39.0 |
| 2022 | -- | -- | -- | -- | -- | -- | 25.6 |
| 2023 | -- | -- | -- | -- | -- | -- | 19.8 |
| 2024 | -- | -- | -- | -- | -- | -- | 21.4 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 6259.4 |

Includes CDP, SDD, D&S, C2D2 (Block 4 and USAF Unique) and DCA.

| Annual Funding - F-35 Engine 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 5.8 |
| 1995 | -- | -- | -- | -- | -- | -- | 19.3 |
| 1996 | -- | -- | -- | -- | -- | -- | 15.8 |
| 1997 | -- | -- | -- | -- | -- | -- | 47.7 |
| 1998 | -- | -- | -- | -- | -- | -- | 87.8 |
| 1999 | -- | -- | -- | -- | -- | -- | 92.4 |
| 2000 | -- | -- | -- | -- | -- | -- | 46.7 |
| 2001 | -- | -- | -- | -- | -- | -- | 66.9 |
| 2002 | -- | -- | -- | -- | -- | -- | 350.4 |
| 2003 | -- | -- | -- | -- | -- | -- | 550.8 |
| 2004 | -- | -- | -- | -- | -- | -- | 533.2 |
| 2005 | -- | -- | -- | -- | -- | -- | 572.5 |
| 2006 | -- | -- | -- | -- | -- | -- | 528.1 |
| 2007 | -- | -- | -- | -- | -- | -- | 639.1 |
| 2008 | -- | -- | -- | -- | -- | -- | 563.9 |
| 2009 | -- | -- | -- | -- | -- | -- | 433.1 |
| 2010 | -- | -- | -- | -- | -- | -- | 445.7 |
| 2011 | -- | -- | -- | -- | -- | -- | 252.9 |
| 2012 | -- | -- | -- | -- | -- | -- | 187.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 199.2 |
| 2014 | -- | -- | -- | -- | -- | -- | 116.1 |
| 2015 | -- | -- | -- | -- | -- | -- | 172.9 |
| 2016 | -- | -- | -- | -- | -- | -- | 100.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 48.7 |
| 2018 | -- | -- | -- | -- | -- | -- | 11.6 |
| 2019 | -- | -- | -- | -- | -- | -- | 69.2 |
| 2020 | -- | -- | -- | -- | -- | -- | 40.5 |
| 2021 | -- | -- | -- | -- | -- | -- | 36.3 |
| 2022 | -- | -- | -- | -- | -- | -- | 28.9 |
| 2023 | -- | -- | -- | -- | -- | -- | 26.9 |
| 2024 | -- | -- | -- | -- | -- | -- | 25.8 |
| Subtotal | 9 | -- | -- | -- | -- | -- | 6316.0 |

| Annual Funding - F-35 Engine 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 7.8 |
| 1995 | -- | -- | -- | -- | -- | -- | 25.5 |
| 1996 | -- | -- | -- | -- | -- | -- | 20.5 |
| 1997 | -- | -- | -- | -- | -- | -- | 61.2 |
| 1998 | -- | -- | -- | -- | -- | -- | 111.7 |
| 1999 | -- | -- | -- | -- | -- | -- | 116.2 |
| 2000 | -- | -- | -- | -- | -- | -- | 57.9 |
| 2001 | -- | -- | -- | -- | -- | -- | 81.8 |
| 2002 | -- | -- | -- | -- | -- | -- | 424.1 |
| 2003 | -- | -- | -- | -- | -- | -- | 657.1 |
| 2004 | -- | -- | -- | -- | -- | -- | 618.8 |
| 2005 | -- | -- | -- | -- | -- | -- | 647.4 |
| 2006 | -- | -- | -- | -- | -- | -- | 579.1 |
| 2007 | -- | -- | -- | -- | -- | -- | 684.1 |
| 2008 | -- | -- | -- | -- | -- | -- | 592.8 |
| 2009 | -- | -- | -- | -- | -- | -- | 449.5 |
| 2010 | -- | -- | -- | -- | -- | -- | 455.8 |
| 2011 | -- | -- | -- | -- | -- | -- | 252.6 |
| 2012 | -- | -- | -- | -- | -- | -- | 183.9 |
| 2013 | -- | -- | -- | -- | -- | -- | 193.7 |
| 2014 | -- | -- | -- | -- | -- | -- | 111.3 |
| 2015 | -- | -- | -- | -- | -- | -- | 163.7 |
| 2016 | -- | -- | -- | -- | -- | -- | 93.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 44.5 |
| 2018 | -- | -- | -- | -- | -- | -- | 10.4 |
| 2019 | -- | -- | -- | -- | -- | -- | 60.7 |
| 2020 | -- | -- | -- | -- | -- | -- | 34.8 |
| 2021 | -- | -- | -- | -- | -- | -- | 30.6 |
| 2022 | -- | -- | -- | -- | -- | -- | 23.9 |
| 2023 | -- | -- | -- | -- | -- | -- | 21.8 |
| 2024 | -- | -- | -- | -- | -- | -- | 20.5 |
| Subtotal | 9 | -- | -- | -- | -- | -- | 6837.3 |

Includes CDP, SDD, D&S, C2D2 (Block 4)

| Annual Funding - F-35 Engine | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 5.7 |
| 1995 | -- | -- | -- | -- | -- | -- | 13.4 |
| 1996 | -- | -- | -- | -- | -- | -- | 4.0 |
| Subtotal | -- | -- | -- | -- | -- | -- | 23.1 |

| Annual Funding - F-35 Engine | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1994 | -- | -- | -- | -- | -- | -- | 7.7 |
| 1995 | -- | -- | -- | -- | -- | -- | 17.7 |
| 1996 | -- | -- | -- | -- | -- | -- | 5.2 |
| Subtotal | -- | -- | -- | -- | -- | -- | 30.6 |

| Annual Funding - F-35 Engine 9999 RDT&E Non Treasury Funds | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1996 | -- | -- | -- | -- | -- | -- | 2.7 |
| 1997 | -- | -- | -- | -- | -- | -- | 3.9 |
| 1998 | -- | -- | -- | -- | -- | -- | 5.1 |
| 1999 | -- | -- | -- | -- | -- | -- | 5.7 |
| 2000 | -- | -- | -- | -- | -- | -- | 1.8 |
| 2001 | -- | -- | -- | -- | -- | -- | 0.5 |
| 2002 | -- | -- | -- | -- | -- | -- | 55.7 |
| 2003 | -- | -- | -- | -- | -- | -- | 79.8 |
| 2004 | -- | -- | -- | -- | -- | -- | 44.8 |
| 2005 | -- | -- | -- | -- | -- | -- | 0.2 |
| 2006 | -- | -- | -- | -- | -- | -- | -- |
| 2007 | -- | -- | -- | -- | -- | -- | 75.0 |
| 2008 | -- | -- | -- | -- | -- | -- | 0.5 |
| 2009 | -- | -- | -- | -- | -- | -- | -- |
| 2010 | -- | -- | -- | -- | -- | -- | -- |
| 2011 | -- | -- | -- | -- | -- | -- | 0.7 |
| 2012 | -- | -- | -- | -- | -- | -- | 0.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 0.6 |
| 2014 | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- |
| 2016 | -- | -- | -- | -- | -- | -- | -- |
| 2017 | -- | -- | -- | -- | -- | -- | -- |
| 2018 | -- | -- | -- | -- | -- | -- | -- |
| 2019 | -- | -- | -- | -- | -- | -- | 30.0 |
| 2020 | -- | -- | -- | -- | -- | -- | 16.8 |
| 2021 | -- | -- | -- | -- | -- | -- | 13.5 |
| 2022 | -- | -- | -- | -- | -- | -- | 12.2 |
| 2023 | -- | -- | -- | -- | -- | -- | 13.1 |
| 2024 | -- | -- | -- | -- | -- | -- | 14.0 |
| Subtotal | -- | -- | -- | -- | -- | -- | 376.8 |

| Annual Funding - F-35 Engine 9999 RDT&E Non Treasury Funds | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year | Quantity | BY 2012 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 1996 | -- | -- | -- | -- | -- | -- | 3.5 |
| 1997 | -- | -- | -- | -- | -- | -- | 5.0 |
| 1998 | -- | -- | -- | -- | -- | -- | 6.5 |
| 1999 | -- | -- | -- | -- | -- | -- | 7.2 |
| 2000 | -- | -- | -- | -- | -- | -- | 2.2 |
| 2001 | -- | -- | -- | -- | -- | -- | 0.6 |
| 2002 | -- | -- | -- | -- | -- | -- | 67.4 |
| 2003 | -- | -- | -- | -- | -- | -- | 95.2 |
| 2004 | -- | -- | -- | -- | -- | -- | 52.0 |
| 2005 | -- | -- | -- | -- | -- | -- | 0.2 |
| 2006 | -- | -- | -- | -- | -- | -- | -- |
| 2007 | -- | -- | -- | -- | -- | -- | 80.3 |
| 2008 | -- | -- | -- | -- | -- | -- | 0.5 |
| 2009 | -- | -- | -- | -- | -- | -- | -- |
| 2010 | -- | -- | -- | -- | -- | -- | -- |
| 2011 | -- | -- | -- | -- | -- | -- | 0.7 |
| 2012 | -- | -- | -- | -- | -- | -- | 0.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 0.6 |
| 2014 | -- | -- | -- | -- | -- | -- | -- |
| 2015 | -- | -- | -- | -- | -- | -- | -- |
| 2016 | -- | -- | -- | -- | -- | -- | -- |
| 2017 | -- | -- | -- | -- | -- | -- | -- |
| 2018 | -- | -- | -- | -- | -- | -- | -- |
| 2019 | -- | -- | -- | -- | -- | -- | 26.3 |
| 2020 | -- | -- | -- | -- | -- | -- | 14.5 |
| 2021 | -- | -- | -- | -- | -- | -- | 11.4 |
| 2022 | -- | -- | -- | -- | -- | -- | 10.1 |
| 2023 | -- | -- | -- | -- | -- | -- | 10.6 |
| 2024 | -- | -- | -- | -- | -- | -- | 11.1 |
| Subtotal | -- | -- | -- | -- | -- | -- | 406.1 |

| Annual Funding - F-35 Engine 3010 Procurement Aircraft Procurement, Air Force | | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| Fiscal Year | Quantity | TY \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2006 | -- | 9.8 | -- | -- | 9.8 | -- | 9.8 | |
| 2007 | 2 | 47.5 | -- | 6.9 | 54.4 | 27.7 | 82.1 | |
| 2008 | 6 | 123.6 | -- | 35.0 | 158.6 | 30.9 | 189.5 | |
| 2009 | 7 | 127.0 | -- | 63.9 | 190.9 | 33.3 | 224.2 | |
| 2010 | 10 | 176.7 | -- | 72.6 | 249.3 | 59.1 | 308.4 | |
| 2011 | 22 | 353.2 | -- | 91.6 | 444.8 | 136.6 | 581.4 | |
| 2012 | 18 | 275.3 | -- | 65.7 | 341.0 | 123.0 | 464.0 | |
| 2013 | 19 | 262.5 | -- | 11.9 | 274.4 | 89.6 | 364.0 | |
| 2014 | 19 | 282.1 | -- | 31.2 | 313.3 | 47.5 | 360.8 | |
| 2015 | 28 | 386.7 | -- | 15.5 | 402.2 | 118.2 | 520.4 | |
| 2016 | 47 | 606.1 | -- | 23.2 | 629.3 | 126.7 | 756.0 | |
| 2017 | 48 | 641.5 | -- | 1.1 | 642.6 | 298.3 | 940.9 | |
| 2018 | 56 | 711.9 | -- | 56.2 | 768.1 | 179.7 | 947.8 | |
| 2019 | 56 | 714.8 | -- | 41.0 | 755.8 | 153.9 | 909.7 | |
| 2020 | 48 | 618.0 | -- | 49.7 | 667.7 | 173.2 | 840.9 | |
| 2021 | 48 | 635.9 | -- | 35.8 | 671.7 | 174.2 | 845.9 | |
| 2022 | 48 | 606.2 | -- | 41.3 | 647.5 | 155.3 | 802.8 | |
| 2023 | 48 | 710.3 | -- | 9.9 | 720.2 | 155.8 | 876.0 | |
| 2024 | 48 | 698.2 | -- | 8.7 | 706.9 | 177.6 | 884.5 | |
| 2025 | 60 | 777.6 | -- | 60.7 | 838.3 | 183.1 | 1021.4 | |
| 2026 | 60 | 785.1 | -- | 57.9 | 843.0 | 86.9 | 929.9 | |
| 2027 | 60 | 854.8 | -- | 61.8 | 916.6 | 82.4 | 999.0 | |
| 2028 | 60 | 978.0 | -- | 62.0 | 1040.0 | 102.4 | 1142.4 | |
| 2029 | 60 | 924.1 | -- | 60.1 | 984.2 | 79.7 | 1063.9 | |
| 2030 | 60 | 839.2 | -- | 66.7 | 905.9 | 95.4 | 1001.3 | |
| 2031 | 60 | 867.8 | -- | 49.7 | 917.5 | 75.9 | 993.4 | |
| 2032 | 60 | 957.0 | -- | 57.1 | 1014.1 | 111.2 | 1125.3 | |
| 2033 | 60 | 1082.7 | -- | 55.9 | 1138.6 | 73.1 | 1211.7 | |
| 2034 | 60 | 1027.1 | -- | 46.3 | 1073.4 | 102.0 | 1175.4 | |
| 2035 | 60 | 936.4 | -- | 46.8 | 983.2 | 99.3 | 1082.5 | |
| 2036 | 60 | 953.7 | -- | 47.5 | 1001.2 | 88.3 | 1089.5 | |
| 2037 | 60 | 1043.2 | -- | 51.5 | 1094.7 | 93.6 | 1188.3 | |
| 2038 | 60 | 1179.8 | -- | 52.6 | 1232.4 | 90.4 | 1322.8 | |
| 2039 | 60 | 1120.6 | -- | 53.6 | 1174.2 | 112.0 | 1286.2 | |
| 2040 | 60 | 1022.4 | -- | 54.1 | 1076.5 | 54.8 | 1131.3 | |
| 2041 | 60 | 1042.8 | -- | 54.8 | 1097.6 | 5.9 | 1103.5 | |
| 2042 | 60 | 1142.7 | -- | 55.6 | 1198.3 | 5.2 | 1203.5 | |
| 2043 | 60 | 1149.0 | -- | 50.3 | 1199.3 | 5.8 | 1205.1 | |
| 2044 | 45 | 806.9 | -- | 40.6 | 847.5 | 5.9 | 853.4 | |
| Subtotal | 1763 | 27478.2 | -- | 1746.8 | 29225.0 | 3813.9 | 33038.9 | |

| Annual Funding - F-35 Engine | | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| 3010 Procurement Aircraft Procurement, Air Force | | | | | | | | |
| Fiscal Year | Quantity | BY 2012 \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2006 | -- | 10.6 | -- | -- | 10.6 | -- | 10.6 | |
| 2007 | 2 | 50.2 | -- | 7.3 | 57.5 | 29.2 | 86.7 | |
| 2008 | 6 | 128.6 | -- | 36.4 | 165.0 | 32.2 | 197.2 | |
| 2009 | 7 | 130.3 | -- | 65.6 | 195.9 | 34.2 | 230.1 | |
| 2010 | 10 | 177.6 | -- | 73.0 | 250.6 | 59.4 | 310.0 | |
| 2011 | 22 | 348.1 | -- | 90.3 | 438.4 | 134.6 | 573.0 | |
| 2012 | 18 | 267.5 | -- | 63.8 | 331.3 | 119.5 | 450.8 | |
| 2013 | 19 | 252.3 | -- | 11.4 | 263.7 | 86.2 | 349.9 | |
| 2014 | 19 | 267.7 | -- | 29.5 | 297.2 | 45.1 | 342.3 | |
| 2015 | 28 | 361.5 | -- | 14.5 | 376.0 | 110.4 | 486.4 | |
| 2016 | 47 | 555.1 | -- | 21.2 | 576.3 | 116.0 | 692.3 | |
| 2017 | 48 | 575.8 | -- | 1.0 | 576.8 | 267.8 | 844.6 | |
| 2018 | 56 | 626.3 | -- | 49.4 | 675.7 | 158.2 | 833.9 | |
| 2019 | 56 | 616.5 | -- | 35.4 | 651.9 | 132.8 | 784.7 | |
| 2020 | 48 | 522.6 | -- | 42.0 | 564.6 | 146.5 | 711.1 | |
| 2021 | 48 | 527.2 | -- | 29.7 | 556.9 | 144.4 | 701.3 | |
| 2022 | 48 | 492.7 | -- | 33.6 | 526.3 | 126.2 | 652.5 | |
| 2023 | 48 | 566.0 | -- | 7.9 | 573.9 | 124.1 | 698.0 | |
| 2024 | 48 | 545.5 | -- | 6.8 | 552.3 | 138.7 | 691.0 | |
| 2025 | 60 | 595.6 | -- | 46.5 | 642.1 | 140.2 | 782.3 | |
| 2026 | 60 | 589.5 | -- | 43.5 | 633.0 | 65.3 | 698.3 | |
| 2027 | 60 | 629.3 | -- | 45.4 | 674.7 | 60.7 | 735.4 | |
| 2028 | 60 | 705.9 | -- | 44.7 | 750.6 | 73.9 | 824.5 | |
| 2029 | 60 | 653.9 | -- | 42.5 | 696.4 | 56.4 | 752.8 | |
| 2030 | 60 | 582.2 | -- | 46.2 | 628.4 | 66.2 | 694.6 | |
| 2031 | 60 | 590.2 | -- | 33.8 | 624.0 | 51.6 | 675.6 | |
| 2032 | 60 | 638.1 | -- | 38.1 | 676.2 | 74.1 | 750.3 | |
| 2033 | 60 | 707.8 | -- | 36.5 | 744.3 | 47.8 | 792.1 | |
| 2034 | 60 | 658.3 | -- | 29.7 | 688.0 | 65.3 | 753.3 | |
| 2035 | 60 | 588.4 | -- | 29.4 | 617.8 | 62.4 | 680.2 | |
| 2036 | 60 | 587.5 | -- | 29.3 | 616.8 | 54.3 | 671.1 | |
| 2037 | 60 | 630.0 | -- | 31.1 | 661.1 | 56.5 | 717.6 | |
| 2038 | 60 | 698.5 | -- | 31.1 | 729.6 | 53.6 | 783.2 | |
| 2039 | 60 | 650.5 | -- | 31.1 | 681.6 | 65.0 | 746.6 | |
| 2040 | 60 | 581.8 | -- | 30.8 | 612.6 | 31.2 | 643.8 | |
| 2041 | 60 | 581.8 | -- | 30.6 | 612.4 | 3.3 | 615.7 | |
| 2042 | 60 | 625.0 | -- | 30.5 | 655.5 | 2.8 | 658.3 | |
| 2043 | 60 | 616.2 | -- | 27.0 | 643.2 | 3.1 | 646.3 | |
| 2044 | 45 | 424.2 | -- | 21.4 | 445.6 | 3.1 | 448.7 | |
| Subtotal | 1763 | 19356.8 | -- | 1318.0 | 20674.8 | 3042.3 | 23717.1 | |

| Cost Quantity Information - F-35 Engine 3010 Procurement Aircraft Procurement, Air Force | | |
|---|----------|---|
| Fiscal Year | Quantity | End Item Recurring Flyaway (Aligned With Quantity) BY 2012 \$M |
| 2006 | -- | -- |
| 2007 | 2 | 50.2 |
| 2008 | 6 | 128.6 |
| 2009 | 7 | 130.3 |
| 2010 | 10 | 177.6 |
| 2011 | 22 | 348.1 |
| 2012 | 18 | 267.5 |
| 2013 | 19 | 252.3 |
| 2014 | 19 | 267.7 |
| 2015 | 28 | 361.5 |
| 2016 | 47 | 555.1 |
| 2017 | 48 | 575.8 |
| 2018 | 56 | 626.3 |
| 2019 | 56 | 616.5 |
| 2020 | 48 | 522.6 |
| 2021 | 48 | 527.2 |
| 2022 | 48 | 492.7 |
| 2023 | 48 | 566.0 |
| 2024 | 48 | 545.5 |
| 2025 | 60 | 595.6 |
| 2026 | 60 | 589.5 |
| 2027 | 60 | 629.3 |
| 2028 | 60 | 705.9 |
| 2029 | 60 | 653.9 |
| 2030 | 60 | 582.2 |
| 2031 | 60 | 590.2 |
| 2032 | 60 | 638.1 |
| 2033 | 60 | 707.8 |
| 2034 | 60 | 658.3 |
| 2035 | 60 | 588.4 |
| 2036 | 60 | 587.5 |
| 2037 | 60 | 630.0 |
| 2038 | 60 | 698.5 |
| 2039 | 60 | 650.5 |
| 2040 | 60 | 581.8 |
| 2041 | 60 | 581.8 |
| 2042 | 60 | 625.0 |
| 2043 | 60 | 616.2 |
| 2044 | 45 | 434.8 |

| | | |
|----------|------|---------|
| Subtotal | 1763 | 19356.8 |
|----------|------|---------|

| Annual Funding - F-35 Engine 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
|---|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|--|
| Fiscal Year | Quantity | TY \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2007 | -- | 27.4 | -- | -- | 27.4 | -- | 27.4 | |
| 2008 | 6 | 246.1 | -- | 1.3 | 247.4 | 1.2 | 248.6 | |
| 2009 | 7 | 298.0 | -- | 54.3 | 352.3 | 65.6 | 417.9 | |
| 2010 | 20 | 599.0 | -- | 118.5 | 717.5 | 127.6 | 845.1 | |
| 2011 | 10 | 400.5 | -- | 112.5 | 513.0 | 122.3 | 635.3 | |
| 2012 | 13 | 191.4 | -- | 57.7 | 249.1 | 62.0 | 311.1 | |
| 2013 | 10 | 236.9 | -- | 26.6 | 263.5 | 169.8 | 433.3 | |
| 2014 | 10 | 227.1 | -- | 21.6 | 248.7 | 142.4 | 391.1 | |
| 2015 | 10 | 259.5 | -- | 38.0 | 297.5 | 68.0 | 365.5 | |
| 2016 | 21 | 362.7 | -- | 22.3 | 385.0 | 109.9 | 494.9 | |
| 2017 | 26 | 648.5 | -- | 19.8 | 668.3 | 233.5 | 901.8 | |
| 2018 | 34 | 799.5 | -- | 86.3 | 885.8 | 216.3 | 1102.1 | |
| 2019 | 37 | 815.7 | -- | 90.3 | 906.0 | 172.9 | 1078.9 | |
| 2020 | 30 | 555.3 | -- | 75.6 | 630.9 | 167.6 | 798.5 | |
| 2021 | 33 | 715.6 | -- | 40.8 | 756.4 | 156.4 | 912.8 | |
| 2022 | 46 | 875.1 | -- | 86.2 | 961.3 | 146.4 | 1107.7 | |
| 2023 | 47 | 948.2 | -- | 66.4 | 1014.6 | 110.1 | 1124.7 | |
| 2024 | 46 | 991.3 | -- | 79.6 | 1070.9 | 112.3 | 1183.2 | |
| 2025 | 45 | 933.5 | -- | 117.4 | 1050.9 | 101.2 | 1152.1 | |
| 2026 | 45 | 940.9 | -- | 122.9 | 1063.8 | 75.9 | 1139.7 | |
| 2027 | 45 | 1026.6 | -- | 97.0 | 1123.6 | 96.6 | 1220.2 | |
| 2028 | 45 | 1102.1 | -- | 92.0 | 1194.1 | 89.2 | 1283.3 | |
| 2029 | 45 | 1071.0 | -- | 96.0 | 1167.0 | 56.9 | 1223.9 | |
| 2030 | 45 | 964.2 | -- | 220.1 | 1184.3 | 132.3 | 1316.6 | |
| 2031 | 17 | 400.0 | -- | 184.5 | 584.5 | 127.7 | 712.2 | |
| Subtotal | 693 | 15636.1 | -- | 1927.7 | 17563.8 | 2864.1 | 20427.9 | |

| Annual Funding - F-35 Engine 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|--|
| Fiscal Year | Quantity | BY 2012 \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2007 | -- | 28.9 | -- | -- | 28.9 | -- | 28.9 | |
| 2008 | 6 | 256.1 | -- | 1.4 | 257.5 | 1.2 | 258.7 | |
| 2009 | 7 | 305.8 | -- | 55.8 | 361.6 | 67.3 | 428.9 | |
| 2010 | 20 | 602.1 | -- | 119.2 | 721.3 | 128.2 | 849.5 | |
| 2011 | 10 | 394.7 | -- | 110.9 | 505.6 | 120.6 | 626.2 | |
| 2012 | 13 | 186.0 | -- | 56.0 | 242.0 | 60.3 | 302.3 | |
| 2013 | 10 | 227.7 | -- | 25.6 | 253.3 | 163.2 | 416.5 | |
| 2014 | 10 | 215.5 | -- | 20.5 | 236.0 | 135.1 | 371.1 | |
| 2015 | 10 | 242.6 | -- | 35.5 | 278.1 | 63.6 | 341.7 | |
| 2016 | 21 | 332.2 | -- | 20.4 | 352.6 | 100.6 | 453.2 | |
| 2017 | 26 | 582.1 | -- | 17.8 | 599.9 | 209.6 | 809.5 | |
| 2018 | 34 | 703.4 | -- | 75.9 | 779.3 | 190.3 | 969.6 | |
| 2019 | 37 | 703.6 | -- | 77.9 | 781.5 | 149.1 | 930.6 | |
| 2020 | 30 | 469.6 | -- | 63.9 | 533.5 | 141.7 | 675.2 | |
| 2021 | 33 | 593.3 | -- | 33.8 | 627.1 | 129.7 | 756.8 | |
| 2022 | 46 | 711.3 | -- | 70.1 | 781.4 | 118.9 | 900.3 | |
| 2023 | 47 | 755.6 | -- | 52.9 | 808.5 | 87.7 | 896.2 | |
| 2024 | 46 | 774.4 | -- | 62.2 | 836.6 | 87.8 | 924.4 | |
| 2025 | 45 | 715.0 | -- | 89.9 | 804.9 | 77.5 | 882.4 | |
| 2026 | 45 | 706.5 | -- | 92.3 | 798.8 | 57.0 | 855.8 | |
| 2027 | 45 | 755.8 | -- | 71.4 | 827.2 | 71.1 | 898.3 | |
| 2028 | 45 | 795.4 | -- | 66.4 | 861.8 | 64.4 | 926.2 | |
| 2029 | 45 | 757.8 | -- | 67.9 | 825.7 | 40.3 | 866.0 | |
| 2030 | 45 | 668.9 | -- | 152.6 | 821.5 | 91.8 | 913.3 | |
| 2031 | 17 | 272.0 | -- | 125.6 | 397.6 | 86.8 | 484.4 | |
| Subtotal | 693 | 12756.3 | -- | 1565.9 | 14322.2 | 2443.8 | 16766.0 | |

| Cost Quantity Information - F-35 Engine 1506 Procurement Aircraft Procurement, Navy | | |
|--|----------|---|
| Fiscal Year | Quantity | End Item Recurring Flyaway (Aligned With Quantity) BY 2012 \$M |
| 2007 | -- | -- |
| 2008 | 6 | 256.1 |
| 2009 | 7 | 305.8 |
| 2010 | 20 | 602.1 |
| 2011 | 10 | 394.7 |
| 2012 | 13 | 186.0 |
| 2013 | 10 | 227.7 |
| 2014 | 10 | 215.5 |
| 2015 | 10 | 242.6 |
| 2016 | 21 | 332.2 |
| 2017 | 26 | 582.1 |
| 2018 | 34 | 703.4 |
| 2019 | 37 | 703.6 |
| 2020 | 30 | 469.6 |
| 2021 | 33 | 593.3 |
| 2022 | 46 | 711.3 |
| 2023 | 47 | 755.6 |
| 2024 | 46 | 774.4 |
| 2025 | 45 | 715.0 |
| 2026 | 45 | 706.5 |
| 2027 | 45 | 755.8 |
| 2028 | 45 | 795.4 |
| 2029 | 45 | 757.8 |
| 2030 | 45 | 668.9 |
| 2031 | 17 | 300.9 |
| Subtotal | 693 | 12756.3 |

Low Rate Initial Production

F-35 Aircraft

| Item | Initial LRIP Decision | Current Total LRIP |
|--------------------------|-----------------------|--------------------|
| Approval Date | 10/26/2001 | 5/23/2015 |
| Approved Quantity | 465 | 518 |
| Reference | Milestone B ADM | LRIP Approval ADM |
| Start Year | 2006 | 2006 |
| End Year | 2015 | 2019 |

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the necessity to prevent a break in production and to ramp up to FRP.

F-35 Engine

| Item | Initial LRIP Decision | Current Total LRIP |
|--------------------------|-----------------------|--------------------|
| Approval Date | 10/26/2001 | 5/23/2015 |
| Approved Quantity | 465 | 518 |
| Reference | Milestone B ADM | LRIP Approval ADM |
| Start Year | 2006 | 2006 |
| End Year | 2015 | 2019 |

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the necessity to prevent a break in production and to ramp up to FRP.

Foreign Military Sales

F-35 Aircraft

| Country | Date of Sale | Quantity | Total Cost \$M | Description |
|---------|--------------|----------|----------------|--|
| Belgium | 10/27/2018 | 34 | 5100.0 | All 34 aircraft will be the F-35A. |
| Japan | 9/14/2015 | 28 | 5277.7 | Japan signed Amendment # 5 on October 19, 2017. This amendment added 6 F-35A's, Japan has option to purchase 14 additional F-35A aircraft. |
| Israel | 2/15/2015 | 50 | 7800.3 | Israel signed Letter of Offer and Acceptance Amendment on August 25, 2017 to exercise their option to purchase an additional 17 F-35A aircraft, bringing planned fleet total to 50 F-35A aircraft. |
| Korea | 9/14/2014 | 40 | 6277.0 | All 40 aircraft will be the F-35A aircraft. |

Notes

F-35 Engine

Notes

FMS information for the F-35 Engine subprogram are reflected in the F-35 Aircraft subprogram.

Nuclear Costs

F-35 Aircraft

None

F-35 Engine

None

Unit Cost

F-35 Aircraft

| Current UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
|--|--|---------------------------------|----------|
| Item | BY 2012 \$M | BY 2012 \$M | % Change |
| | Current UCR Baseline (Mar 2019 APB) | Current Estimate (Dec 2018 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 292210.2 | 286438.5 | |
| Quantity | 2470 | 2470 | |
| Unit Cost | 118.304 | 115.967 | -1.98 |
| Average Procurement Unit Cost | | | |
| Cost | 230886.4 | 225144.5 | |
| Quantity | 2456 | 2456 | |
| Unit Cost | 94.009 | 91.671 | -2.49 |
| Original UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
| Item | BY 2012 \$M | BY 2012 \$M | % Change |
| | Revised Original UCR Baseline (Mar 2012 APB) | Current Estimate (Dec 2018 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 276482.2 | 286438.5 | |
| Quantity | 2458 | 2470 | |
| Unit Cost | 112.483 | 115.967 | +3.10 |
| Average Procurement Unit Cost | | | |
| Cost | 224333.7 | 225144.5 | |
| Quantity | 2443 | 2456 | |
| Unit Cost | 91.827 | 91.671 | -0.17 |

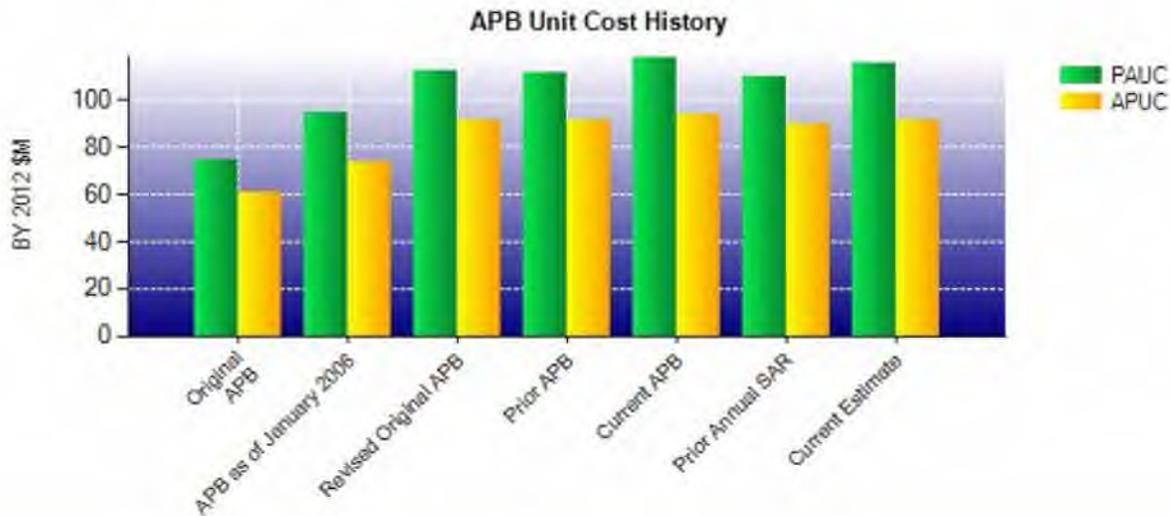
The DoD average F-35 Aircraft Unit Recurring Flyaway (URF) Cost consists of the Hardware (Airframe, Vehicle Systems, Mission Systems, and Engineering Change Order) costs over the life of the program. The URF assumes the quantity benefits of 132 FMS aircraft and 632 International Partner aircraft.

The current estimate for F-35 total procurement quantity increase from 2443 to 2456 has not changed from SAR 2017 to SAR 2018.

F-35A (Conventional Take Off and Landing) URF - \$69.5M (BY 2012)

F-35B (Short Takeoff and Vertical Landing) URF - \$80.0M (BY 2012)

F-35C (Carrier Variant) URF - \$79.5M (BY 2012)



| APB Unit Cost History | | | | | |
|------------------------|----------|-------------|--------|---------|---------|
| Item | Date | BY 2012 \$M | | TY \$M | |
| | | PAUC | APUC | PAUC | APUC |
| Original APB | Oct 2001 | 74.567 | 60.632 | 81.298 | 68.934 |
| APB as of January 2006 | Mar 2004 | 94.837 | 73.845 | 100.407 | 81.826 |
| Revised Original APB | Mar 2012 | 112.529 | 91.827 | 135.065 | 115.697 |
| Prior APB | Jun 2014 | 111.908 | 91.827 | 134.638 | 115.697 |
| Current APB | Mar 2019 | 118.304 | 94.009 | 149.685 | 125.805 |
| Prior Annual SAR | Dec 2017 | 110.006 | 89.821 | 138.256 | 119.189 |
| Current Estimate | Dec 2018 | 115.967 | 91.671 | 146.740 | 122.889 |

SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | | |
|---|---------|--------|-------|-------|--------|-------|--------|--------|--|-----------------------|
| PAUC Development Estimate | Changes | | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | | |
| 135.065 | 0.858 | -0.222 | 8.430 | 7.123 | -2.764 | 0.000 | -1.750 | 11.675 | | 146.740 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | | |
|---|---------|--------|-------|-------|--------|-------|--------|-------|--|-----------------------|
| Initial APUC Development Estimate | Changes | | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | | |
| 115.697 | 0.846 | -0.123 | 8.478 | 2.438 | -2.688 | 0.000 | -1.759 | 7.192 | | 122.889 |

| SAR Baseline History | | | | |
|----------------------|-----------------------|--------------------------|-------------------------|------------------|
| Item | SAR Planning Estimate | SAR Development Estimate | SAR Production Estimate | Current Estimate |
| Milestone I | N/A | Nov 1996 | N/A | Nov 1996 |
| Milestone B | Mar 2001 | Mar 2012 | N/A | Mar 2012 |
| Milestone C | TBD | Apr 2019 | N/A | Oct 2019 |
| IOC | TBD | TBD | N/A | Jul 2015 |
| Total Cost (TY \$M) | 24800.0 | 331855.2 | N/A | 362447.3 |
| Total Quantity | N/A | 2457 | N/A | 2470 |
| PAUC | N/A | 135.065 | N/A | 146.740 |

The Service IOC reflected in the above table is the U.S. Marine Corps Objective date. In addition, the U.S. Air Force IOC objective date was August 2016, and the U.S. Navy IOC objective date is August 2018.

F-35 Engine

| Current UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
|---|-------------------------------------|---------------------------------|----------|
| Item | BY 2012 \$M | BY 2012 \$M | % Change |
| | Current UCR Baseline (Mar 2019 APB) | Current Estimate (Dec 2018 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 54358.2 | 54016.5 | |
| Quantity | 2470 | 2470 | |
| Unit Cost | 22.007 | 21.869 | -0.63 |
| Average Procurement Unit Cost | | | |
| Cost | 41012.8 | 40483.1 | |
| Quantity | 2456 | 2456 | |
| Unit Cost | 16.699 | 16.483 | -1.29 |

| Original UCR Baseline and Current Estimate (Base-Year Dollars) | | | |
|--|--------------------------------------|---------------------------------|----------|
| Item | BY 2012 \$M | BY 2012 \$M | % Change |
| | Original UCR Baseline (Mar 2012 APB) | Current Estimate (Dec 2018 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 53916.4 | 54016.5 | |
| Quantity | 2458 | 2470 | |
| Unit Cost | 21.935 | 21.869 | -0.30 |
| Average Procurement Unit Cost | | | |
| Cost | 42332.9 | 40483.1 | |
| Quantity | 2443 | 2456 | |
| Unit Cost | 17.328 | 16.483 | -4.88 |

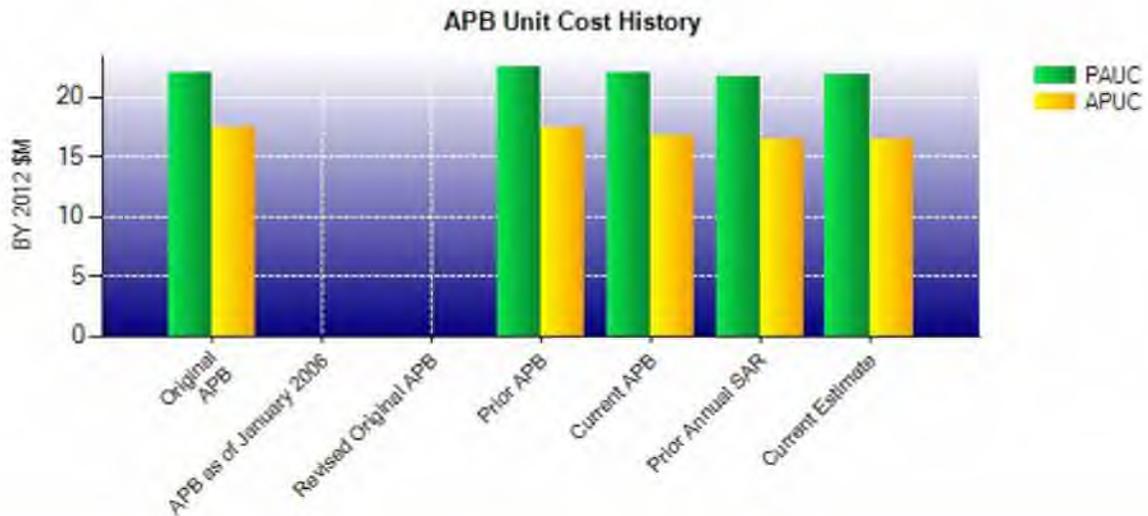
The DoD average F-35 Engine Unit Recurring Flyaway (URF) Cost consists of the Hardware (Propulsion and Engineering Change Order) costs over the life of the program. The URF assumes the quantity benefits of 132 FMS engines and 632 International Partner engines.

The current estimate for F-35 total procurement quantity increase from 2443 to 2456 has not changed from SAR 2017 to SAR 2018.

F-35A (Conventional Take Off and Landing) URF - \$11.1M (BY 2012)

F-35B (Short Takeoff and Vertical Landing) URF - \$27.0M (BY 2012)

F-35C (Carrier Variant) URF - \$11.2M (BY 2012)



| APB Unit Cost History | | | | | |
|------------------------|----------|-------------|--------|--------|--------|
| Item | Date | BY 2012 \$M | | TY \$M | |
| | | PAUC | APUC | PAUC | APUC |
| Original APB | Mar 2012 | 21.989 | 17.328 | 25.990 | 21.708 |
| APB as of January 2006 | N/A | N/A | N/A | N/A | N/A |
| Revised Original APB | N/A | N/A | N/A | N/A | N/A |
| Prior APB | Jun 2014 | 22.496 | 17.328 | 26.396 | 21.708 |
| Current APB | Mar 2019 | 22.007 | 16.699 | 26.874 | 22.020 |
| Prior Annual SAR | Dec 2017 | 21.611 | 16.394 | 26.170 | 21.450 |
| Current Estimate | Dec 2018 | 21.869 | 16.483 | 26.694 | 21.770 |

SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|--------|-------|-------|-------|-------|--------|-------|-----------------------|
| PAUC Development Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 25.990 | 0.137 | -0.048 | 1.008 | 0.221 | 0.193 | 0.000 | -0.807 | 0.704 | 26.694 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|--------|-------|-------|--------|-------|--------|-------|-----------------------|
| Initial APUC Development Estimate | Changes | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 21.708 | 0.131 | -0.024 | 1.014 | 0.000 | -0.247 | 0.000 | -0.812 | 0.062 | 21.770 |

| SAR Baseline History | | | | | |
|-----------------------------|------------------------------|---------------------------------|--------------------------------|-------------------------|---------|
| Item | SAR Planning Estimate | SAR Development Estimate | SAR Production Estimate | Current Estimate | |
| Milestone A | N/A | N/A | N/A | N/A | N/A |
| Milestone B | N/A | N/A | N/A | N/A | N/A |
| Milestone C | N/A | N/A | N/A | N/A | N/A |
| IOC | N/A | N/A | N/A | N/A | N/A |
| Total Cost (TY \$M) | N/A | 63856.6 | N/A | N/A | 65935.4 |
| Total Quantity | N/A | 2457 | N/A | N/A | 2470 |
| PAUC | N/A | 25.990 | N/A | N/A | 26.694 |

Cost Variance

F-35 Aircraft

| Summary TY \$M | | | | |
|-------------------------------------|----------|-------------|--------|----------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 44410.1 | 282647.8 | 4797.3 | 331855.2 |
| Previous Changes | | | | |
| Economic | -19.1 | -355.4 | +14.1 | -360.4 |
| Quantity | -- | +1204.0 | -- | +1204.0 |
| Schedule | -- | +20893.4 | -- | +20893.4 |
| Engineering | +11.7 | +2606.6 | -- | +2618.3 |
| Estimating | -896.0 | -7517.4 | +447.2 | -7966.2 |
| Other | -- | -- | -- | -- |
| Support | -- | -6752.0 | -- | -6752.0 |
| Subtotal | -903.4 | +10079.2 | +461.3 | +9637.1 |
| Current Changes | | | | |
| Economic | +12.5 | +2434.1 | +33.8 | +2480.4 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -70.5 | -- | -70.5 |
| Engineering | +11596.4 | +3379.9 | -- | +14976.3 |
| Estimating | +290.7 | +915.2 | -67.8 | +1138.1 |
| Other | -- | -- | -- | -- |
| Support | -- | +2430.7 | -- | +2430.7 |
| Subtotal | +11899.6 | +9089.4 | -34.0 | +20955.0 |
| Total Changes | +10996.2 | +19168.6 | +427.3 | +30592.1 |
| CE - Cost Variance | 55406.3 | 301816.4 | 5224.6 | 362447.3 |
| CE - Cost & Funding | 55406.3 | 301816.4 | 5224.6 | 362447.3 |

| Summary BY 2012 \$M | | | | |
|-------------------------------------|----------|-------------|--------|----------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 47982.1 | 224332.9 | 4168.0 | 276483.0 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | +817.9 | -- | +817.9 |
| Schedule | -- | +5683.1 | -- | +5683.1 |
| Engineering | +10.3 | +1922.0 | -- | +1932.3 |
| Estimating | -1319.3 | -6151.9 | +273.3 | -7197.9 |
| Other | -- | -- | -- | -- |
| Support | -- | -6002.8 | -- | -6002.8 |
| Subtotal | -1309.0 | -3731.7 | +273.3 | -4767.4 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -150.1 | -- | -150.1 |
| Engineering | +9806.1 | +2421.7 | -- | +12227.8 |
| Estimating | +289.1 | +371.5 | +84.4 | +745.0 |
| Other | -- | -- | -- | -- |
| Support | -- | +1900.2 | -- | +1900.2 |
| Subtotal | +10095.2 | +4543.3 | +84.4 | +14722.9 |
| Total Changes | +8786.2 | +811.6 | +357.7 | +9955.5 |
| CE - Cost Variance | 56768.3 | 225144.5 | 4525.7 | 286438.5 |
| CE - Cost & Funding | 56768.3 | 225144.5 | 4525.7 | 286438.5 |

Previous Estimate: December 2017

| RDT&E | \$M | |
|--|-----------------|-----------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | +12.5 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (USAF) (Engineering) | +2979.5 | +3533.0 |
| Adjustment to include Non-Block 4 Development Prior Year actuals (USAF) (Engineering) | +726.6 | +827.1 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (DoN) (Engineering) | +3183.6 | +3775.3 |
| Adjustment to include Non-Block 4 Development Prior Year actuals (DON) (Engineering) | +190.3 | +204.7 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (Partners) (Engineering) | +2726.1 | +3256.3 |
| Adjustment for current and prior escalation. (Estimating) | -11.3 | -12.3 |
| Adjustment to include Non-Block 4 Development Prior Year actuals (Partners) (Estimating) | +294.5 | +296.6 |
| Adjustment to SDD Prior Year actuals (USAF) (Estimating) | +7.6 | +8.4 |
| Adjustment to include SDD Development Prior Year actuals (DoN) (Estimating) | -1.7 | -2.0 |
| RDT&E Subtotal | +10095.2 | +11899.6 |

| Procurement | \$M | |
|--|-----------|-----------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | +2434.1 |
| Stretch-out of procurement buy profile in FY 2024 to FY 2044 (Aircraft Procurement, Air Force (APAF)). (Schedule) | 0.0 | +363.1 |
| Additional schedule variance for procurement quantity profile adjustments (APAF). (Schedule) | -69.1 | -105.2 |
| Acceleration of procurement buy profile in FY 2018 to FY 2032 (Aircraft Procurement, Navy (APN)). (Schedule) | 0.0 | -178.9 |
| Additional schedule variance for procurement quantity profile adjustments (APN). (Schedule) | -81.0 | -149.5 |
| Additional funding for Block 4 modifications (APAF). (Engineering) | +1632.5 | +2279.5 |
| Additional funding for Block 4 modifications (APN). (Engineering) | +789.2 | +1100.4 |
| Adjustment for current and prior escalation. (Estimating) | -191.0 | -214.8 |
| Revised estimate to reflect the application of new outyear escalation indices (APAF). (Estimating) | -920.5 | -1348.2 |
| Revised estimate to reflect the application of new outyear escalation indices (APN). (Estimating) | -396.5 | -507.5 |
| Revised funding due to updated estimating assumptions (APN). (Estimating) | -296.5 | -379.0 |
| Revised estimate of Airframe cost due to the incorporation of the latest prime and subcontractor actuals and labor/exchange rates (APAF). (Estimating) | +1030.2 | +1864.8 |
| Revised estimate of Airframe cost due to the incorporation of the latest prime and subcontractor actuals and labor/exchange rates (APN). (Estimating) | +679.4 | +973.1 |
| Revised estimate of non-recurring costs (APAF). (Estimating) | -49.1 | -64.5 |
| Revised estimate of non-recurring costs (APN). (Estimating) | +10.8 | +12.3 |
| Update for fact-of-life changes for prior years/lots FY 2006- FY 2019 (APAF). (Estimating) | +118.6 | +133.4 |
| Update for fact-of-life changes for prior years/lots FY 2006- FY 2019 (APN). (Estimating) | +386.1 | +445.6 |

| | | |
|--|----------------|----------------|
| Adjustment for current and prior escalation. (Support) | -33.8 | -38.3 |
| Increase in Other Support due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (APAF). (Support) | +579.1 | +813.9 |
| Decrease in Initial Spares due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (APAF). (Support) | -232.2 | -356.4 |
| Increase in Other Support due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (APN). (Support) | +1206.4 | +1581.1 |
| Increase in Initial Spares due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (APN). (Support) | +380.7 | +430.4 |
| Procurement Subtotal | +4543.3 | +9089.4 |

| MILCON | \$M | |
|--|--------------|--------------|
| | Base Year | Then Year |
| Current Change Explanations | | |
| Revised escalation indices. (Economic) | N/A | +33.8 |
| Adjustment for current and prior escalation. (Estimating) | -12.0 | -13.6 |
| Revised estimate as a result of refined requirements (Navy) (Estimating) | +659.8 | +806.9 |
| Revised estimate based on funded requirements received from Service MILCON estimates (Navy) (Estimating) | -486.6 | -669.8 |
| Revised estimate as a result of refined requirements (USAF). (Estimating) | +479.9 | +610.6 |
| Revised estimate due to funding actuals for prior years (USAF) (Estimating) | +2.6 | +3.0 |
| Revised estimate based on funded requirements received from Service MILCON estimates (USAF) (Estimating) | -559.3 | -804.9 |
| MILCON Subtotal | +84.4 | -34.0 |

Cost Variance**F-35 Engine**

| Summary TY \$M | | | | |
|-------------------------------------|---------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 10823.7 | 53032.9 | -- | 63856.6 |
| Previous Changes | | | | |
| Economic | +16.0 | -118.4 | -- | -102.4 |
| Quantity | -- | +221.3 | -- | +221.3 |
| Schedule | -- | +2427.5 | -- | +2427.5 |
| Engineering | -- | -- | -- | -- |
| Estimating | +1118.0 | -610.0 | -- | +508.0 |
| Other | -- | -- | -- | -- |
| Support | -- | -2272.3 | -- | -2272.3 |
| Subtotal | +1134.0 | -351.9 | -- | +782.1 |
| Current Changes | | | | |
| Economic | +1.0 | +440.9 | -- | +441.9 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +62.3 | -- | +62.3 |
| Engineering | +545.4 | -- | -- | +545.4 |
| Estimating | -35.5 | +3.4 | -- | -32.1 |
| Other | -- | -- | -- | -- |
| Support | -- | +279.2 | -- | +279.2 |
| Subtotal | +510.9 | +785.8 | -- | +1296.7 |
| Total Changes | +1644.9 | +433.9 | -- | +2078.8 |
| CE - Cost Variance | 12468.6 | 53466.8 | -- | 65935.4 |
| CE - Cost & Funding | 12468.6 | 53466.8 | -- | 65935.4 |

| Summary BY 2012 \$M | | | | |
|-------------------------------------|---------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 11695.2 | 42332.9 | -- | 54028.1 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | +150.3 | -- | +150.3 |
| Schedule | -- | +274.4 | -- | +274.4 |
| Engineering | -- | -- | -- | -- |
| Estimating | +1421.7 | -729.8 | -- | +691.9 |
| Other | -- | -- | -- | -- |
| Support | -- | -1764.5 | -- | -1764.5 |
| Subtotal | +1421.7 | -2069.6 | -- | -647.9 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -10.0 | -- | -10.0 |
| Engineering | +460.1 | -- | -- | +460.1 |
| Estimating | -43.6 | -17.5 | -- | -61.1 |
| Other | -- | -- | -- | -- |
| Support | -- | +247.3 | -- | +247.3 |
| Subtotal | +416.5 | +219.8 | -- | +636.3 |
| Total Changes | +1838.2 | -1849.8 | -- | -11.6 |
| CE - Cost Variance | 13533.4 | 40483.1 | -- | 54016.5 |
| CE - Cost & Funding | 13533.4 | 40483.1 | -- | 54016.5 |

Previous Estimate: December 2017

| RDT&E | \$M | |
|--|-----------|-----------|
| | Base Year | Then Year |
| Current Change Explanations | | |
| Revised escalation indices. (Economic) | N/A | +1.0 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (USAF) (Engineering) | +183.8 | +218.2 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (DoN) (Engineering) | +192.3 | +227.6 |
| Adjustment to include Block 4 Development Prior Year actuals and Program Office Cost Estimate (Partners) (Engineering) | +84.0 | +99.6 |
| Adjustment for current and prior escalation. (Estimating) | -1.0 | -1.0 |
| Adjustment to include non-Block 4 Development Prior Year actuals (USAF) (Estimating) | +1.8 | +1.9 |
| Adjustment to include SDD Development Prior Year actuals (DoN) (Estimating) | +5.1 | +5.4 |
| Adjustment to include non-Block 4 Development Prior Year actuals (Partners) (Estimating) | -49.5 | -41.8 |
| RDT&E Subtotal | +416.5 | +510.9 |

| Procurement | \$M | |
|--|-----------|-----------|
| | Base Year | Then Year |
| Current Change Explanations | | |
| Revised escalation indices. (Economic) | N/A | +440.9 |
| Stretch-out of procurement buy profile in FY 2024 to FY 2044 (Engine Procurement, Air Force (EPAF)). (Schedule) | 0.0 | +64.5 |
| Additional schedule variance for procurement quantity profile adjustments (EPAF). (Schedule) | -10.1 | -16.1 |
| Acceleration of procurement buy profile in FY 2018 to FY 2032 (Engine Procurement, Navy (EPN)). (Schedule) | 0.0 | -31.6 |
| Additional schedule variance for procurement quantity profile adjustments (EPN). (Schedule) | +0.1 | +45.5 |
| Adjustment for current and prior escalation. (Estimating) | -36.5 | -41.1 |
| Revised estimate to reflect the application of new outyear escalation indices (EPAF). (Estimating) | -195.9 | -284.9 |
| Revised estimate to reflect the application of new outyear escalation indices (EPN). (Estimating) | -119.3 | -152.5 |
| Revised funding due to updated estimating assumptions (EPN). (Estimating) | -45.7 | -59.3 |
| Revised estimate due to the incorporation of the latest actuals and labor/exchange rates (Engine EPAF). (Estimating) | +190.2 | +274.0 |
| Revised estimate due to the incorporation of the latest actuals and labor/exchange rates (EPN). (Estimating) | +141.0 | +209.7 |
| Revised estimate of non-recurring costs (EPAF). (Estimating) | -3.7 | -5.0 |
| Revised estimate of non-recurring costs (EPN). (Estimating) | +1.9 | +2.3 |
| Update for fact-of-life changes for prior years/lots FY 2006- FY 2019 (EPAF). (Estimating) | +4.3 | +5.7 |
| Update for fact-of-life changes for prior years/lots FY 2006- FY 2019 (EPN). (Estimating) | +46.2 | +54.5 |
| Adjustment for current and prior escalation. (Support) | -9.0 | -10.3 |
| Increase in Other Support due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (EPAF). (Support) | +65.3 | +91.0 |
| Decrease in Initial Spares due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (EPAF). (Support) | -105.0 | -160.3 |

| | | |
|---|--------|--------|
| Increase in Other Support due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (EPN). (Support) | +133.1 | +174.3 |
| Increase in Initial Spares due to maturation of technical baseline, definition of customer requirements, and further definition of Service beddown plans (EPN). (Support) | +162.9 | +184.5 |
| <hr/> Procurement Subtotal | +219.8 | +785.8 |

Contracts

General Notes

The FY 2015 Annualized Sustainment contract no longer meets the threshold for the six largest contracts.

Contract Identification

Appropriation: Procurement
Contract Name: F-35 LRIP 9
Contractor: Lockheed Martin
Contractor Location: 1 Lockheed Boulevard
 Fort Worth, TX 76101
Contract Number: N00019-14-C-0002
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Incentive Fee (CPIF)
Award Date: July 29, 2013
Definitization Date: November 02, 2016

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 738.0 | N/A | 57 | 7041.4 | N/A | 57 | 6997.9 | 7041.4 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to driven by definitization of the LRIP 9 Production effort. Initial Contract Price consisted primarily of Long Lead material and Production Non-Recurring (PNR) Tooling.

| Contract Variance | | |
|---|---------------|-------------------|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (12/31/2018) | -4.0 | -69.0 |
| Previous Cumulative Variances | -52.0 | -141.0 |
| Net Change | +48.0 | +72.0 |

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to the completion of aircraft deliveries in early 2018. Remaining tasks include Production Tooling and Diminishing Manufacturing Source redesign effort, which is performing favorably.

The favorable net change in the schedule variance is due to schedule recovery for previously late aircraft delivery tasks.

Notes

This contract is more than 90% complete; therefore, this is the final report for this contract. To date, 57 of 57 aircraft have been delivered. The final jet delivered in December 2017.

Contract Identification

Appropriation: Procurement
Contract Name: F-35 LRIP 10
Contractor: Lockheed Martin
Contractor Location: 1 Lockheed Boulevard
 Fort Worth, TX 76101
Contract Number: N00019-15-C-0003
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Fixed Fee (CPFF)
Award Date: February 28, 2013
Definitization Date: June 01, 2017

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 25.4 | N/A | 94 | 8898.5 | N/A | 90 | 9093.1 | 8898.5 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization of the LRIP 10 Production effort. Initial Contract Price consisted primarily of Long Lead material.

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (12/31/2018) | -147.0 | -142.0 |
| Previous Cumulative Variances | -114.0 | +5.0 |
| Net Change | -33.0 | -147.0 |

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to assembly labor due to higher than anticipated volumes of out of station work, part shortages, and inefficiencies associated with the influx of new employees and the associated learning curve.

The unfavorable net change in the schedule variance is due to delays within Final Assembly (staffing shortages, missing hole primer rework, non-conformance issues requiring rework) and late delivery of Gen III Helmet Display Units.

Notes

This contract is more than 90% complete; therefore, this is the final report for this contract. To date, 90 of 94 aircraft have delivered.

Contract Identification

Appropriation: Procurement
Contract Name: F135 LRIP 9
Contractor: Pratt & Whitney
Contractor Location: 400 Aircraft Road
 Middletown, CT 06457
Contract Number: N00019-14-C-0004
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Incentive Fee (CPIF)
Award Date: May 02, 2014
Definitization Date: October 30, 2015

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 110.1 | N/A | 67 | 1571.0 | 1571.0 | 67 | 1520.7 | 1540.9 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization of the Production and Sustainment Initial Spares and non-recurring work scope. Initial Contract Price consisted primarily of long lead production hardware.

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (12/31/2018) | -130.0 | -33.0 |
| Previous Cumulative Variances | -137.0 | -59.0 |
| Net Change | +7.0 | +26.0 |

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to Estimate to Complete (ETC) updates to General & Administrative rates, program labor and Short Takeoff and Vertical Landing propulsion systems for the United Kingdom and United States Marine Corps.

The favorable net change in the schedule variance is due to schedule recovery with Initial Spare Power Modules, Fan Modules and 3 Bearing Swivel Module deliveries. Additionally, schedule recovery with several tasks U.S. Services Non-Annualized Depot Activation work and Non-Recurring, Non-Annualized (U.S. Services Only).

Notes

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: Procurement
Contract Name: F135 LRIP 10
Contractor: Pratt & Whitney
Contractor Location: 400 Aircraft Road
 Middletown, CT 06457
Contract Number: N00019-15-C-0004
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Incentive Fee (CPIF)
Award Date: April 30, 2015
Definitization Date: November 25, 2015

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 157.0 | N/A | 104 | 2204.2 | 2259.0 | 104 | 2207.0 | 2206.2 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization of the Production and Sustainment work scope. Initial Contract Price consisted primarily of long lead production hardware.

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (12/31/2018) | -218.0 | -64.0 |
| Previous Cumulative Variances | -163.0 | -137.0 |
| Net Change | -55.0 | +73.0 |

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to Estimate to Complete (ETC) updates to Conventional Takeoff and Landing (CTOL) and Short Takeoff and Vertical Landing propulsion systems, Initial Spares Modules and General & Administrative rates.

The favorable net change in the schedule variance is due to schedule recovery with CTOL and Carrier Variant propulsion systems, Initial Global Spare Engines, Common Replenishment Spares and Depot Activation Training Assets deliveries that was offset by delays in U.S. Services Depot Activation work, Initial Spares and propulsion systems for partner countries.

Notes

This contract is more than 90% complete. Therefore, this is the final report for this contract.

Contract Identification

Appropriation: Procurement
Contract Name: F135 LRIP 11
Contractor: Pratt & Whitney
Contractor Location: 400 Aircraft Road
 Middletown, CT 06457
Contract Number: N00019-17-C-0020
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Incentive Fee (CPIF)
Award Date: November 06, 2016
Definitization Date: May 31, 2018

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 180.9 | N/A | 143 | 2642.1 | N/A | 143 | 1520.7 | 2642.1 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization of the Production and Initial Spare Sustainment work scope. Initial Contract Price consisted long lead production hardware.

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (12/31/2018) | -39.0 | +51.0 |
| Previous Cumulative Variances | -- | -- |
| Net Change | -39.0 | +51.0 |

Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to the Conventional Takeoff and Landing (CTOL), Carrier Variant (CV) and Short Takeoff and Vertical Landing (STOVL) propulsion system hardware is costing more than planned due to delays with incorporating enough engineering changes, affordability initiatives to lower the manufacturing costs, and the supply chain team being unable to negotiate lower pricing from the supply base. Additionally, the General & Administrative rates actual costs are higher than plan.

The favorable cumulative schedule variance is due to early CTOL, CV and STOVL propulsion system hardware deliveries for the U.S. Air Force, Partner Countries and FMS customers.

Notes

This is the first time this contract is being reported.

Contract Identification

Appropriation: Procurement
Contract Name: F-35 LRIP 11
Contractor: 1 Lockheed Boulevard
Contractor Location: Fort Worth, TX 76101
Contract Number: N00019-16-C-0033
Contract Type: Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Incentive Fee (CPIF)
Award Date: February 15, 2015
Definitization Date: September 25, 2018

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 11.8 | N/A | 141 | 12146.5 | N/A | 141 | 12296.1 | 12146.5 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to definitization of the LRIP 11 Production effort. Initial Contract Price consisted primarily of Long Lead material.

| Contract Variance | | |
|---|---------------|-------------------|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (12/31/2018) | -135.0 | -227.0 |
| Previous Cumulative Variances | -- | -- |
| Net Change | -135.0 | -227.0 |

Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to production operation overruns due to part shortages, supplier non-conformance, seam validation non-conformance, and new employee ramp-up and transition.

The unfavorable cumulative schedule variance is due to late issuance of Radar, Electronic Warfare, Electro-Optical Targeting System, and Integrated Core Processor parts due to assembly-related delays.

Notes

This is the first time this contract is being reported.

The first Undefined Contract Action (UCA) Integrated Program Management Report (IPMR) submittal was received in month-end September 2017. To date, no aircraft have been delivered.

Deliveries and Expenditures

F-35 Aircraft

| Deliveries | | | | |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | 14 | 14 | 14 | 100.00% |
| Production | 359 | 278 | 2456 | 11.32% |
| Total Program Quantity Delivered | 373 | 292 | 2470 | 11.82% |

| Expended and Appropriated (TY \$M) | | | |
|------------------------------------|----------|----------------------------|----------|
| Total Acquisition Cost | 362447.3 | Years Appropriated | 26 |
| Expended to Date | 100306.5 | Percent Years Appropriated | 50.98% |
| Percent Expended | 27.67% | Appropriated to Date | 124865.9 |
| Total Funding Years | 51 | Percent Appropriated | 34.45% |

The above data is current as of March 11, 2019.

Notes

Totals reflect U.S. aircraft only-no International Partner aircraft.

F-35 Engine

| Deliveries | | | | |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | 14 | 14 | 14 | 100.00% |
| Production | 359 | 278 | 2456 | 11.32% |
| Total Program Quantity Delivered | 373 | 292 | 2470 | 11.82% |

| Expended and Appropriated (TY \$M) | | | |
|------------------------------------|---------|----------------------------|---------|
| Total Acquisition Cost | 65935.4 | Years Appropriated | 26 |
| Expended to Date | 20544.8 | Percent Years Appropriated | 50.98% |
| Percent Expended | 31.16% | Appropriated to Date | 25984.0 |
| Total Funding Years | 51 | Percent Appropriated | 39.41% |

The above data is current as of March 11, 2019.

Notes

Engines planned and actual to date only include production installs.

Operating and Support Cost

F-35 Aircraft

Cost Estimate Details

| | |
|---------------------------------|-------------------|
| Date of Estimate: | December 20, 2018 |
| Source of Estimate: | CAPE ICE |
| Quantity to Sustain: | 2456 |
| Unit of Measure: | Flying Hour |
| Service Life per Unit: | 30.00 Years |
| Fiscal Years in Service: | FY 2011 - FY 2077 |

The 14 developmental aircraft will not be sustained.

Sustainment Strategy

The F-35 Product Support Manager (PSM) has developed and is executing a Sustainment Strategy that is consistent with warfighter requirements, technical specifications, extant contracts, government policies, and best practices. The F-35 Sustainment Strategy expressly states that the F-35 Program will:

- Design, develop, deliver and sustain a single, integrated, and global system of sustainment products, processes, and business practices. These actions will enable the F-35 Air System to achieve a high degree of effectiveness at an affordable cost.
- Tailor the global system to meet warfighter-defined and PSM-supported readiness and cost objectives. This action will ensure that the global system is responsive and flexible as operational needs vary over time.
- Maintain life-cycle focus, including the reduction of costs. This action will provide critical affordability benefits and further supports a high degree of effectiveness as Air System maturity grows.
- Create a mutually-beneficial enterprise that – with relevant metrics and incentives – operates, manages, and supports the global system. This action further improves responsiveness and enhances affordability.
- Leverage the global resource base – government and commercial – to take advantage of stakeholder capabilities, human capital, best practices, and similar critical contributions. This action increases robustness and scalability as the F-35 fleet grows and matures.

Antecedent Information

The F-35 family of aircraft variants will replace the following current aircraft: F-16C/D, A-10, F/A-18C/D, and AV-8B. The F-35 O&S estimate is based on legacy fleet history only when F-35 specific data is not available.

Comparing the costs of the 5th Generation F-35 to legacy aircraft is challenging. The cost table compares an adjusted F-16C/D Cost per Flying Hour (CPFH) to a forecast of the CPFH for the F-35A variant. The F-35A CPFH figure is based on the Conventional Takeoff and Landing (CTOL) variant only. The F-35A CTOL variant will make up the majority of the DoD F-35 aircraft procurement, accounting for 1,763 of 2,456 total aircraft currently planned for U.S. forces.

The F-16C/D CPFH figures were developed in a joint effort between OSD CAPE and the Air Force Cost Analysis Agency (AFCAA). The figures have been normalized for comparison to the F-35A CPFH forecast. The starting point for the F-

16C/D CPFH is an average of actual cost incurred for this fleet during FY 2008 through FY 2010. In order to enable the direct comparison of the CPFH figures, the actual F-16C/D CPFH is adjusted to reflect the cost of fuel, the number of flight hours forecast for the F-35A, and FY 2013 inflation indices. The F-16C/D figures include costs that F-16 shares with other Air Force platforms: Systems Engineering/Program Management (SEPM), maintenance training costs, certain software development efforts, and information systems. Costs for mission planning are included in the F-35A CPFH figure, but equivalent costs for the F-16C/D are not available, and no adjustment was made for this element of cost. Finally, the F-16C/D figures assume full funding of requirements consistent with the F-35A CPFH figures.

| Annual O&S Costs BY2012 \$K | | | |
|--------------------------------|-------------------------------------|--|---|
| Cost Element | F-35 Aircraft | | F-16C/D (Antecedent) Cost Per Flying Hour (\$) |
| | Average Annual Cost Per Flying Hour | | |
| Unit-Level Manpower | 8.797 | | 10.042 |
| Unit Operations | 5.134 | | 5.632 |
| Maintenance | 10.295 | | 5.501 |
| Sustaining Support | 3.748 | | 2.075 |
| Continuing System Improvements | 2.163 | | 2.291 |
| Indirect Support | 0.000 | | 0.000 |
| Other | 0.000 | | 0.000 |
| Total | 30.137 | | 25.541 |

Given the significant increase in military capabilities provided, it is reasonable to expect F-35A to cost more to operate and sustain than 4th generation legacy aircraft.

| Item | Total O&S Cost \$M | | | |
|------------------|--|------------------|------------------|----------------------|
| | F-35 Aircraft | | | F-16C/D (Antecedent) |
| | Current Development APB Objective/Threshold | Current Estimate | Current Estimate | |
| Base Year | 630534.5 | 693588.0 | 630534.5 | N/A |
| Then Year | 1196415.1 | N/A | 1196415.0 | N/A |

The Total O&S Cost figures reflect the CAPE ICE O&S cost estimate updated at the request of the CAPE Deputy Director for Cost Assessment. The O&S cost estimate includes all three U.S. aircraft variants, is based on a forecast 30-year service-life, and is based on planned usage rates provided by each relevant military service. The planned F-35 usage rates, in terms of aircraft flight hours per year, are as follows: F-35A @ 250 hrs./yr.; F-35B @ 300 hrs./yr.; and F-35C @ 316 hrs./yr. The O&S cost estimate is not a simple extrapolation of the F-35A flying hour cost shown in the unitized O&S cost table. The CAPE ICE uses FY 2017 inflation indices, and includes revised forecasts of labor escalation rates for military, civilian, and contractor personnel. A comparable total cost figure for the antecedent system (i.e., F-16C/D) is not available.

The 2018 update to the CAPE estimate of F-35 total life cycle O&S cost incorporates new data regarding several key cost elements relative to the CAPE O&S cost estimate prepared for the 2017 SAR. This includes: updated fuel burn rates for all aircraft variants; an increase in the assumed fuel price per gallon for both JP-5 and JP-8; a revised cost per induction for the F-135 engine; new military Service bed down plans for all aircraft variants; updated depot-level repairable (DLR) costs based on actual Fleet reliability data and reliability growth projections; revised unit-level manpower headcounts; and, other miscellaneous updates. As shown in Table 2 above, the updated information results in increased cost forecasts for certain cost elements, and decreased cost forecasts for other elements. The 2018 CAPE total O&S cost estimate is approximately 1.6% higher in constant FY12 dollars (and 6.5% higher in then-year dollars) than the total O&S

cost estimate shown in the 2017 SAR.

In PB19, the Department of the Navy (DoN) funded the development and implementation of intermediate level (I-Level) repair capabilities and therefore changed the program of record (POR). The CAPE ICE currently does not include I-Level maintenance costs for the DoN. However, once the concept of operations is codified by the program office, CAPE will quantify the associated costs and/or savings in a future update of the ICE.

The CAPE 2018 update of the F-35 O&S cost estimate incorporates actual information on component reliabilities obtained from ongoing F-35 flight operations, including flight testing and field operations. The Joint Program Office provided CAPE F-35 fleet maintenance data, comprised of all component repairs and failures on 212 F-35 aircraft (excluding System Development and Demonstration (SDD) and Lot 1 aircraft) from January 2015 through July 2018. These data enabled CAPE to independently estimate the reliability and reliability growth for all three U.S. F-35 variants, as well as the component level reliability based on approximately 95,000 flight hours of operations. Because the data reveal improvement in reliability with later Lots, the CAPE 2018 F-35 O&S estimate incorporates these trends through reliability growth curves, which reflect the changing composition of the Fleet in future years. The higher reliability Lots will comprise a larger and growing fraction of the fleet which decreases the anticipated maintenance cost (per aircraft) over time. As a result, CAPE's F-35 O&S estimate reflects a decrease in Air Vehicle Depot Level Repairable (DLR) costs relative to the 2017 SAR.

CAPE will continue to work with government stakeholders and contractors to improve the processes and methods used to incorporate actual data and information into the CAPE ICE. Future iterations of the CAPE ICE will: provide updated reliability estimates as more data are collected, especially after IOT&E; incorporate actual repair costs by part as they become available; and, inform unit-level manpower projections with actual headcount data. This information will be used to update the O&S cost estimates as the program proceeds to and beyond the upcoming Full Rate Production decision. In the future, the incorporation of additional actual data and information could result in substantial changes in CAPE O&S estimates.

Affordability remains a priority for the F-35 Program Office. The program received new Cost Per Tail Per Year (CPTPY) and Cost Per Flight Hour (CPFH) Affordability Constraints from the Services in an October 16, 2018 ADM and prior memos directly from the Services. These constraints include a consistent cost definition of O&S less Indirects (WBS elements 1.0 to 5.0), appear in CY12\$, and focus on Service defined Steady State periods ranging from 2033 to 2043. To aid in establishing plans and tracking progress toward meeting these future constraints, the F-35 program established Near Term Targets for FY 2019 to 2033. The program expects efforts such as the Sustainment Affordability War Room (AWR) Cost Reduction Initiatives (CRIs), Reliability and Maintainability Improvement Program (RMIP), Engine Component Improvement Program (CIP), and Life Cycle Sustainment Plan (LCSP) Success Elements to contribute toward achieving these JPO Near Term Targets and Service Affordability Constraints.

The O&S Program Office Estimate (POE) reflects the JPO's 2018 Annual Cost Estimate (ACE) of \$580.9B BY 2012\$ (\$1,096.1B TY\$), which incorporates updates to reflect the latest technical baseline for the program and revised stakeholder requirements. Primary updates to the 2018 POE include: aligning with OSD escalation guidance (impact to BY\$), incorporating the latest beddowns, updating to FY19 military composite labor rates, and adjusting the modifications bookkeeping strategy to only capture sustainment related modifications in FY23 and later years. (Procurement now includes all modifications through FY22 and capability upgrade related modifications in FY23 and beyond within the Non-Recurring Flyaway costs.)

The F-35 PEO believes that the inherent differences between the F-35 and the F-16 estimates, such as mission planning costs being included in F-35 but not F-16 and the fact that the F-16 is a mature weapons system with many reliability and maintenance costs "leaned out" over the years, result in an overstating of the differences in cost per flying hour between the two. Regardless of the difference, the F-35 program office is committed to, and has enacted multiple programs to drive the O&S costs of the F-35 down.

Average Annual O&S Costs shown here reflect the Average Annual CPFH for the USAF F-35A at Steady State in 2036 to 2041, based on the JPO's 2018 ACE, as of March 08, 2019.

Average Annual O&S Costs BY 2012 \$K

| Cost Element | F-35A (JPO ACE) | F-16C/D (Antecedent) |
|--------------------------------|------------------------|-----------------------------|
| Unit-Level Manpower | 9.182 | 10.042 |
| Unit Operations | 4.813 | 5.632 |
| Maintenance | 9.617 | 5.501 |
| Sustaining Support | 3.489 | 2.075 |
| Continuing System Improvements | 2.152 | 2.291 |
| Indirect Support | 0.000 | 0.000 |
| Other | 0.000 | 0.000 |
| Total | 29.307 | 25.541 |

Equation to Translate Annual Cost to Total Cost

The Total O&S Costs for the F-35 Program do not easily translate to the Average Annual O&S Costs for the USAF F-35A. The Total O&S Costs section includes costs for the USAF F-35A, USMC F-35B, USMC F-35C, and USN F-35C from 2011 to 2077, whereas the Average Annual O&S Costs reflects the USAF F-35A CPFH at Steady State. F-35A Steady State occurs in 2036 to 2041, per definition from the USAF. Additionally, Total O&S Costs includes WBS elements: 1.0 Unit-Level Manpower, 2.0 Unit Operations, 3.0 Maintenance, 4.0 Sustaining Support, 5.0 Continuing System Improvements, and 6.0 Indirect Support. Average Annual O&S Costs CPFH measures include O&S less Indirects (WBS elements 1.0 to 5.0) only, per direction from the Services in their Affordability Constraints Memos.

| O&S Cost Variance | | |
|--|--------------------|---|
| Category | BY 2012 \$M | Change Explanations |
| Prior SAR Total O&S Estimates - Dec 2017 SAR | 620805.4 | |
| Programmatic/Planning Factors | -10578.0 | Reduction in USN F-35C flight hours, offset by increased USMC F-35B quantity |
| Cost Estimating Methodology | -5297.6 | Refined AV reliability estimates, incorporated F119 as engine analogy |
| Cost Data Update | 23413.3 | Refreshed squadron manning documentation, updated to 2017 inflation indices, revised price escalation |
| Labor Rate | 0.0 | |
| Energy Rate | 3828.3 | Updated to FY18 fuel prices |
| Technical Input | -1636.9 | Reduced burn rates |
| Other | 0.0 | |
| Total Changes | 9729.1 | |
| Current Estimate | 630534.5 | |

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2012 \$M):

Program maturity is not at a point where disposal costs can be estimated within an acceptable margin of error.

F-35 Engine

Cost Estimate Details

Date of Estimate:

Source of Estimate:

Quantity to Sustain:

Unit of Measure:

Service Life per Unit:

Fiscal Years in Service:

O&S costs for the engine subprogram are included in the overall program costs that are shown in the F-35 Aircraft subprogram.

Sustainment Strategy**Antecedent Information**

| Annual O&S Costs BY2012 \$M | | | |
|--------------------------------|-------------|--|----------------------------|
| Cost Element | F-35 Engine | | No Antecedent (Antecedent) |
| Unit-Level Manpower | 0.000 | | 0.000 |
| Unit Operations | 0.000 | | 0.000 |
| Maintenance | 0.000 | | 0.000 |
| Sustaining Support | 0.000 | | 0.000 |
| Continuing System Improvements | 0.000 | | 0.000 |
| Indirect Support | 0.000 | | 0.000 |
| Other | 0.000 | | 0.000 |
| Total | -- | | -- |

| Item | Total O&S Cost \$M | | | |
|-----------|---|------------------|----------------------------|-----|
| | F-35 Engine | | No Antecedent (Antecedent) | |
| | Current Development APB Objective/Threshold | Current Estimate | | |
| Base Year | N/A | N/A | N/A | N/A |
| Then Year | N/A | N/A | N/A | 0.0 |

| O&S Cost Variance | | |
|--|-------------|---------------------|
| Category | BY 2012 \$M | Change Explanations |
| Prior SAR Total O&S Estimates - Dec 2017 SAR | 0.0 | |

| | |
|-------------------------------|-----|
| Programmatic/Planning Factors | 0.0 |
| Cost Estimating Methodology | 0.0 |
| Cost Data Update | 0.0 |
| Labor Rate | 0.0 |
| Energy Rate | 0.0 |
| Technical Input | 0.0 |
| Other | 0.0 |
| Total Changes | 0.0 |
| Current Estimate | 0.0 |

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2012 \$M):